

In the Matter of:)
)
Application for Certification) Docket No.
for the Elk Hills Power) 99-AFC-1
Project)

THURSDAY, MARCH 9, 2000

9:00 a.m.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

COMMITTEE MEMBERS PRESENT

Michal C. Moore, Commissioner, Presiding Member

Robert Pernell, Commissioner, Associate Member

Ellen Townsend-Smith, Commissioner Advisor

Shawn D. Pittard, Commissioner Advisor

Major Williams, Jr., Hearing Officer

STAFF PRESENT

Kerry Willis, Staff Counsel

Marc S. Pryor, Siting Project Manager

Robert Anderson

APPLICANT

Jane Luckhardt

Taylor O. Miller

Downey, Brand, Seymour & Rohwer

INTERVENOR

Katherine S. Poole

Attorney at Law

Adams, Broadwell, Joseph & Cardozo

I N D E X

	Page
Proceedings	1
Preliminary Items	1
Biological Resources	
WITNESSES:	
Applicant	
JOHN LITTLE	
Direct Examination by	
Ms. Luckhardt	13
Cross Examination by	
Ms. Poole	22
WESTLEY RHODEHAMEL	
Direct Examination by	
Ms. Luckhardt	16
Cross Examination by	
Ms. Poole	22
Redirect Examination by	
Ms. Luckhardt	29
Staff	
LINDA SPIEGEL	
Direct Examination by	
Ms. Willis	34
Cross Examination by	
Ms. Poole	38
Motion to Dismiss Admission of	
Testimony	
Applicant - Mr. Miller	41
Staff - Ms. Willis	46
Intervenor - Ms. Poole	49
Discussion	52
Decision	63

I N D E X

	Page
Soil and Water Resources	
WITNESSES:	
Applicant	
GARY CRONK	
Direct Examination by	
Mr. Miller	70
BRIAN PATRICK	
Direct Examination by	
Mr. Miller	75
JOSEPH H. ROWLEY	
Direct Examination by	
Mr. Miller	81
Lunch Break	121
Afternoon Session	122
Soil and Water Resources (continued)	
WITNESSES:	
Applicant	
DONNA M. THOMPSON	
Direct Examination by	
Mr. Miller	123
BARRY HANSON	
Direct Examination by	
Mr. Miller	133
Cross Examination by	
Ms. Poole	140
JOSEPH ROWLEY	
Cross Examination by	
Ms. Poole	143
Cross Examination (Resumed)	
by Ms. Poole	166
Redirect Examination by	
Mr. Miller	171

I N D E X

	Page
Soil and Water Resources (continued)	
WITNESSES:	
Applicant	
JOSEPH ROWLEY (continued)	
Rebuttal:	
Direct Examination by	
Mr. Miller	243
BRIAN PATRICK	
Cross Examination by	
Ms. Poole	157
Redirect Examination by	
Mr. Miller	175
Staff	
JOSEPH O'HAGAN	
Direct Examination by	
Ms. Willis	181
Direct Examination (resumed)	
by Ms. Willis	192
Cross Examination by	
Mr. Miller	198
Cross Examination by	
Ms. Poole	202
Redirect Examination by	
Ms. Willis	203
Recross Examination by	
Mr. Miller	204
Recross Examination by	
Ms. Poole	205
ROBERT ANDERSON	
Direct Examination by	
Ms. Willis	189
Intervenor	
DR. PHYLLIS FOX	
Direct Examination by	
Ms. Poole	207
Cross Examination by	
Mr. Miller	221

I N D E X

	Page
Soil and Water Resources (continued)	
WITNESSES:	
Intervenor	
DR. PHYLLIS FOX (continued)	
Cross Examination by	
Ms. Willis	237
Redirect Examination by	
Ms. Poole	240
Recross Examination by	
Mr. Miller	241
Rebuttal	
Direct Examination by	
Ms. Poole	246
Closing Comments	249
Adjournment	258
Certificate of Reporter	259

E X H I B I T S

	ID	RECEIVED
Exhibits		
2-H Data Request Response	8	21
19-A FSA Part 2	5	197
19-B Supplement		197
20-A Prefiled Testimony	10	21
21-I Declaration, L. Spiegel	6	38
21-J Declaration, J. O'Hagan	68	197
21-L Declaration, J. O'Hagan	8	197
34 Draft Report	11	21
35 Water Source Alt.	84	
36 Groundwater Mgmt. Plan	127	127
37 Injection Wells	127	
38 Response to Objections	142	142
39-A Water Document, Dr. Fox		253
30-B Supplemental Water Document, Dr. Fox		253

1 P R O C E E D I N G S

2 COMMISSIONER PERNELL: Good morning. My
3 name is Robert Pernell, and I am the Second Member
4 on this Committee. I'm taking the place of
5 Commissioner Rohy.

6 At this time Commissioner Moore, who's
7 the Presiding Member, will be running a little
8 later, so I'll open up the hearing. And in doing
9 so, I'd like to turn it over to Major Williams,
10 who will go through the introductions.

11 HEARING OFFICER WILLIAMS: Good morning.
12 I would say that all the parties who were here
13 when we last convened are once again present. I
14 would note that Kate Poole is here on behalf of
15 CURE. Lizanne Reynolds is no longer -- will no
16 longer be with us.

17 On February 16 the Committee issued a
18 revised notice scheduling today's hearing. During
19 the course of today's hearing the Committee will
20 take occasional short recesses, as well as a lunch
21 break to be announced later.

22 The revised notice indicated a backup
23 hearing date of March 23rd, if needed, for the
24 topics we are hearing today, Biological and Soil
25 and Water Resources. The Committee's preference

1 is that we complete the hearings today, and we
2 will proceed on into the dinner hour to complete
3 the topics. We will, however, conclude the
4 hearings today by 9:00 p.m.

5 Before we move on to take evidence, I
6 would like to deal with any housekeeping matters
7 that the parties would like the Committee to
8 entertain at this time. And I would first proceed
9 to the Applicant, because I believe that there is
10 a motion pending.

11 MR. MILLER: We do have a motion to
12 strike -- sorry, not to strike, but to deny
13 admissibility of testimony filed on behalf of CURE
14 rather late, in our view, on March 7. If you
15 would prefer to defer that matter until
16 Commissioner Moore is able to be present, that
17 would be acceptable, certainly, to us. We do
18 expect Biology to go first today anyway, so
19 perhaps it would be appropriate to postpone that
20 discussion for a little bit.

21 HEARING OFFICER WILLIAMS: Okay. Is
22 there any objection to postponing that until
23 Commissioner Moore --

24 MS. WILLIS: No, none.

25 MS. POOLE: No objection.

1 HEARING OFFICER WILLIAMS: Okay. So,
2 okay, that's what we'll do. We will put off
3 hearing the motion until such time as Commissioner
4 Moore arrives.

5 Are there any other housekeeping --

6 MS. LUCKHARDT: We have one other
7 housekeeping matter. On the exhibit list, and I
8 believe Mr. Miller has passed out an exhibit list
9 to everyone today, unfortunately, in the -- in the
10 draft that we sent out we did not include the data
11 request numbers under the first item listed on the
12 exhibit description. And to complete that, those
13 numbers should be 34, 50, and 82.

14 MS. POOLE: I'm sorry, what number are
15 you on?

16 MS. LUCKHARDT: If you're looking at the
17 -- the exhibit list, you should've been provided
18 one by Mr. Miller this morning, it was initially
19 filed with our Biology and Water Resources
20 testimony. It's just a short one-page thing that
21 we provided, and somehow inadvertently left off
22 the data request numbers. Again, that should be
23 34, 50, and 82.

24 HEARING OFFICER WILLIAMS: Do you have
25 additional copies of that?

1 MS. LUCKHARDT: We don't have them
2 written on because we didn't realize it until we
3 walked in this morning.

4 HEARING OFFICER WILLIAMS: That's fine.
5 Okay. Thank you, Counsel.

6 Is there anything else that we can take
7 up at this time?

8 MS. LUCKHARDT: I don't think so.
9 That's all we have.

10 HEARING OFFICER WILLIAMS: Does any of
11 the other parties have any matters that we can
12 take up at this time, in terms of housekeeping?

13 MS. WILLIS: We added the declarations
14 of Linda Spiegel and Joseph O'Hagan, and the
15 resumes. I think those will be marked as part of
16 the Final Staff Assessment, Part 2. They were
17 just inadvertently left off.

18 HEARING OFFICER WILLIAMS: Okay.

19 MS. WILLIS: And that has -- as I say,
20 Part 2 has not been marked yet.

21 HEARING OFFICER WILLIAMS: Okay. Why
22 don't we -- why don't we mark the FSA a sub under
23 the original FSA --

24 MS. WILLIS: Okay.

25 HEARING OFFICER WILLIAMS: -- which is,

1 I believe --

2 MS. WILLIS: Does that make it 19?

3 HEARING OFFICER WILLIAMS: -- 19.

4 MS. WILLIS: A, or --

5 HEARING OFFICER WILLIAMS: -- 19-A will
6 be the Supplemental FSA.

7 (Thereupon, Exhibit 19-A was marked for
8 identification.)

9 MS. LUCKHARDT: And does that include
10 the additional information provided by Staff
11 today, is that also part of 19A?

12 HEARING OFFICER WILLIAMS: Yeah. I -- I
13 -- the errata, you're speaking of.

14 MS. LUCKHARDT: Yes.

15 HEARING OFFICER WILLIAMS: Now, which
16 one of these refers to the Biological Resources?

17 MS. WILLIS: Ms. Spiegel's declaration
18 is for Biology, and Mr. O'Hagan's was for the
19 Water and Soil.

20 HEARING OFFICER WILLIAMS: Okay. So
21 we'll mark those with the erratas. Okay.

22 MS. WILLIS: Okay. And we also --

23 HEARING OFFICER WILLIAMS: Next in
24 order. We'll mark Ms. Spiegel's as -- looks like
25 21-I. It has her resume attached, so it's four --

1 four total pages.

2 (Thereupon, Exhibit 21-I was marked
3 for identification.)

4 HEARING OFFICER WILLIAMS: Then there is
5 a one-page addendum that starts out aerial
6 photographs. Is that part of Ms. Spiegel's?

7 MS. LUCKHARDT: No, that is part of
8 Applicant's errata.

9 HEARING OFFICER WILLIAMS: Okay. Why
10 don't we mark that, Applicant's errata -- does
11 everybody have this document? We'll mark it --

12 MS. LUCKHARDT: This is that one page
13 document that I handed out earlier, that is part
14 of the Draft Permit, that has the one -- one
15 errata correction to it.

16 HEARING OFFICER WILLIAMS: That'll be
17 21-K.

18 (Thereupon, Exhibit 21-K was marked
19 for identification.)

20 MS. LUCKHARDT: If we're marking
21 exhibits, I noticed also that some of our data
22 responses, the ones I mentioned earlier, were not
23 in the exhibit list, and so I don't know where
24 they -- where they fall.

25 HEARING OFFICER WILLIAMS: Yeah. Let's

1 take that up later. We'll deal with the data
2 requests later.

3 MS. LUCKHARDT: With where to -- what to
4 mark it as?

5 HEARING OFFICER WILLIAMS: Yeah, what to
6 mark them as. Because we've already marked some
7 on the exhibit list, and I'm not sure.

8 MS. LUCKHARDT: Yeah, in looking at --
9 when I looked at the exhibit list, when I was
10 preparing the testimony on Biology, I could not
11 find a reference to our responses to Staff's Data
12 Requests filed October 12th, and I gather it's
13 October -- could've been October 13th, I could be
14 incorrect on that. And so that's why it was added
15 to our exhibit list when we filed our testimony.
16 And I tried to put an exhibit number in it, and
17 obviously didn't quite get the right one.

18 So our data requests are really all on
19 the two's, so maybe it's -- oh, it's 2-H instead
20 of 21-H, is probably how that should be marked.

21 HEARING OFFICER WILLIAMS: Okay. Well,
22 since we seem to have figured it out, we'll just
23 go ahead and mark it as 2-H. And -- and that's
24 the one -- which particular request is that?

25 MS. LUCKHARDT: Those are the October

1 12th Data Requests. The numbers are 34, 50, and
2 82.

3 HEARING OFFICER WILLIAMS: What was the
4 date again, October --

5 MS. LUCKHARDT: October 12th.

6 HEARING OFFICER WILLIAMS: -- 12th,
7 1999?

8 MS. LUCKHARDT: 1999.

9 (Thereupon, Exhibit 2-H was marked
10 for identification.)

11 HEARING OFFICER WILLIAMS: Do you have
12 copies of those?

13 MS. LUCKHARDT: Those have been
14 previously filed, should be in the record already.

15 HEARING OFFICER WILLIAMS: Okay. That's
16 fine.

17 MS. WILLIS: Can I just ask for a point
18 of clarification? Ms. Spiegel's declaration is
19 21-I?

20 HEARING OFFICER WILLIAMS: Yes.

21 MS. WILLIS: And then Mr. O'Hagan's?

22 HEARING OFFICER WILLIAMS: Will be 21-L.

23 (Thereupon, Exhibit 21-L was marked
24 for identification.)

25 MS. WILLIS: 21-L. And we also have a

1 supplement that we filed to the FSA Part 2. So I
2 just want to make sure that gets --

3 HEARING OFFICER WILLIAMS: Okay. Now,
4 what is that one again? It's a --

5 MS. LUCKHARDT: That's got me lost.

6 MS. WILLIS: That's the -- the -- that's
7 the Water and Soils supplement that was filed last
8 -- it was just last week. March 2.

9 HEARING OFFICER WILLIAMS: Is that 19-A
10 that we --

11 MS. WILLIS: Pardon?

12 HEARING OFFICER WILLIAMS: -- 19-A that
13 we marked?

14 MS. WILLIS: 19-A was the Part 2 Final
15 Staff Assessment. This was a supplement to that
16 Part 2.

17 HEARING OFFICER WILLIAMS: Okay. Well,
18 let's do that as 19-A.

19 MS. WILLIS: 19-A.

20 HEARING OFFICER WILLIAMS: Do I have
21 that? That was filed? Okay. When was it filed?
22 I have it here. Okay.

23 So are we -- are we there on the
24 exhibits?

25 MS. WILLIS: Yes.

1 MS. POOLE: We will have some errata to
2 Dr. Fox's testimony. She has it, and
3 unfortunately she has disappeared at the moment.
4 But I will make sure that's passed out before
5 Water.

6 HEARING OFFICER WILLIAMS: Okay. We can
7 take that up --

8 MS. LUCKHARDT: And if we're -- if we're
9 marking -- we want to make sure that we've got a
10 number for our Elk Hills pre-filed testimony that
11 was filed on February 25th on Biology and Water.
12 And that could include the Draft Permit that was
13 -- yeah, that could be part of 20. That may be
14 it. Maybe 21-A, or 20-A.

15 HEARING OFFICER WILLIAMS: Okay. Let's
16 mark it --

17 MS. LUCKHARDT: Our pre-filed testimony.

18 HEARING OFFICER WILLIAMS: Okay.

19 MS. LUCKHARDT: Or you could add another
20 number. I don't --

21 HEARING OFFICER WILLIAMS: No, we'll --
22 we'll do it 20-A.

23 (Thereupon, Exhibit 20-A was marked
24 for identification.)

25 MS. LUCKHARDT: And we'll also -- and

1 the other thing is the draft Biological Resources
2 Mitigation and Implementation Monitoring Plan.
3 That's the item that we have the errata for.

4 HEARING OFFICER WILLIAMS: Okay.

5 MS. LUCKHARDT: The errata's been marked
6 21-K.

7 HEARING OFFICER WILLIAMS: Well, let's
8 -- let's make the draft report the next in order.

9 MS. LUCKHARDT: Okay. That would be 34.

10 HEARING OFFICER WILLIAMS: Thirty-four.
11 (Thereupon, Exhibit 34 was marked
12 for identification.)

13 HEARING OFFICER WILLIAMS: Okay. Are we
14 still on the same page, everybody? All right.

15 Evidentiary hearings are formal in
16 nature, similar to court proceedings. The purpose
17 of the hearings is to receive evidence including
18 testimony, and to establish the factual record
19 necessary to reach a decision in this case.
20 Applicant has the burden of presenting sufficient
21 substantial evidence to support the findings and
22 conclusions required for certification of the
23 proposed facility.

24 The order of testimony will be taken as
25 follows for each topic: Applicant, Staff, and

1 CURE. We will address the topics in the sequence
2 contained in the revised schedule. First we will
3 hear testimony on Biological Resources, and then
4 we will move to Soil and Water Resources.

5 Witnesses will testify under oath or
6 affirmation. During the hearings, the party
7 sponsoring the witness shall establish the
8 witness's qualifications and ask the witness to
9 summarize the prepared testimony. Relevant
10 exhibits should be offered into evidence at that
11 time. At the conclusion of a witness's direct
12 testimony, the Committee will provide the other
13 parties an opportunity for cross examination,
14 followed by redirect and recross examination, as
15 appropriate.

16 Multiple witnesses may testify as a
17 panel. The Committee may also question the
18 witnesses.

19 Upon conclusion of each topic area we
20 will invite members of the public to offer unsworn
21 public comment. Public comment is not testimony,
22 but may be used to explain evidence in the record.

23 Are there any questions at this time?

24 Do we have any public representatives in
25 the audience?

1 Seeing none, we shall now begin with the
2 Applicant's presentation on Biological Resources.

3 The witnesses will be sworn by the court
4 reporter. Would you swear the witness, please.

5 (Thereupon, John Little and Westley
6 Rhodehamel were, by the reporter, sworn
7 to tell the truth, the whole truth, and
8 nothing but the truth.)

9 MS. LUCKHARDT: Okay. The Applicant
10 calls John Little and Westley Rhodehamel to
11 testify in the area of Biological Resources.

12 We'll start with Dr. Little.

13 TESTIMONY OF

14 JOHN LITTLE

15 called as a witness on behalf of Applicant, having
16 been first duly sworn, was examined and testified
17 as follows:

18 DIRECT EXAMINATION

19 BY MS. LUCKHARDT:

20 Q Can you please state your name and
21 occupation for the record?

22 A My name is John Little. I'm President
23 of Sycamore Environmental Consultants in
24 Sacramento, California.

25 Q And Mr. Little's resume and background

1 and experience have been previously filed and are
2 included in the record.

3 At this time I will ask Dr. Little to
4 identify the exhibits he is sponsoring as his
5 testimony today.

6 A I'm sponsoring the Application for
7 Certification, Exhibit 1, and along with Wes
8 Rhodehamel I am sponsoring AFC Section 5.3,
9 Biological Resources; Section 6.5.3, Biological
10 Resources; and Appendix J, which is the Biological
11 Resources Technical Report.

12 Q And then are you also sponsoring other
13 exhibits?

14 A Yes. Along with Wes Rhodehamel, I am
15 also sponsoring Exhibit 2-A, which is the response
16 to Staff Data Request Number 34 and 39. I'm
17 sponsoring Exhibit 2-B, which is the response to
18 Staff Data Request Numbers 34 and 35. I'm
19 sponsoring Exhibit 2-F, which is the response to
20 Staff Data Request Numbers 45 through 51. I'm
21 sponsoring Exhibit 2-H, which is response to Staff
22 Data Request Numbers 34 and 50; and Exhibit 3,
23 which is the response to CURE Data Request Numbers
24 123 through 124.

25 Q Okay. I may be mis-hearing, but I

1 believe -- could you re-review the data request
2 numbers you're sponsoring for Exhibit 2-A? Is
3 that 34 and 39, or 34 through 39?

4 A I'm sorry, that's numbers 34 through 39.

5 Q Thank you. And also, on Exhibit 3,
6 again it may be just my hearing. Is it 123
7 through 134, is that the correct --

8 A Yes, that's correct, 123 through 134.

9 Q Great. Thank you. And then are you
10 also sponsoring Attachment A, testimony of R. John
11 Little, regarding Biological Resources in support
12 of the Application for Certification for the Elk
13 Hills Power Project?

14 A Yes, I am.

15 Q And do you have any corrections to make
16 to your testimony today?

17 A No, I do not.

18 Q And do the items identified as your
19 testimony, are these your true and sworn testimony
20 in this proceeding?

21 A Yes.

22 Q And does this testimony include your
23 best professional opinion?

24 A Yes, it does.

25 MS. LUCKHARDT: And now I'll turn to Mr.

1 Rhodehamel.

2 TESTIMONY OF

3 WESTLEY RHODEHAMEL

4 called as a witness on behalf of the Applicant,
5 having been first duly sworn, was examined and
6 testified as follows:

7 DIRECT EXAMINATION

8 BY MS. LUCKHARDT:

9 Q Would you please state your name and
10 occupation for the record?

11 A My name is Wes Rhodehamel. I am the
12 Vice President of Quad Knopf Consultants in
13 Bakersfield.

14 MS. LUCKHARDT: Thank you. And Mr.
15 Rhodehamel's qualifications and background have
16 been previously filed in this proceeding. So at
17 this point I will just have Mr. Rhodehamel
18 identify the exhibits he is sponsoring.

19 THE WITNESS: I'm sponsoring the same
20 exhibits as Mr. Little.

21 BY MS. LUCKHARDT:

22 Q And then do you have something in
23 addition that you are sponsoring, as well?

24 A Yes, I do. And I believe that is that
25 Elk Hills Power will conduct spring surveys for

1 the Transmission Line Route 1B. And Elk Hills
2 will -- Power will conduct confirmatory surveys in
3 March and May timeframe. These surveys will be
4 included -- will include the portion of Route 1B
5 variation between the sites MP-4.4.

6 Q And are you also sponsoring the exhibit
7 which has now been marked as Exhibit 34, which is
8 the Draft Biological Resources Mitigation and
9 Implementation Monitoring Plan?

10 A Yes, I am.

11 Q And, Mr. Rhodehamel, in sponsoring that
12 plan, does that plan -- will that plan include all
13 of the requirements contained in the Final Staff
14 Assessment as well as all the requirements
15 included in the U.S. Fish and Wildlife Service
16 Section 7 Biological Permit?

17 A Yes, it will.

18 Q Or Biological Opinion, I'm sorry.
19 That's my mistake.

20 And that plan, at this time, the Draft
21 Plan includes mitigation measures for biological
22 resources, does it not?

23 A Yes, it does.

24 Q And do you expect to see similar
25 conditions in the U.S. Fish and Wildlife Section 7

1 Biological Opinion?

2 A Yes, I do.

3 Q And you also spoke of the spring
4 surveys. Are those what you would characterize as
5 pre-construction surveys?

6 A Yes, they are.

7 Q Could you please summarize your
8 testimony?

9 A The EHP will be located on mostly
10 disturbed land developed for oil and gas
11 production. The power plant site is presently
12 occupied by out of service tanks and related
13 equipment. The transmission line route
14 alternatives and pipeline routes are planned along
15 existing transmission lines, pipelines, and roads.
16 And for the most part, the routes are located
17 within the Elk Hills oil and gas field.

18 Certain areas in western Kern County
19 provide habitat for a number of sensitive plant
20 and animal species. During the past two decades
21 the Elk Hills oil and gas field has been
22 continually and extensively surveyed for federal
23 and state listed plant and animal species. These
24 previous surveys were reviewed to assist and
25 determine EHPP facility locations that will avoid

1 or minimize impacts to biological resources.

2 In addition, new biological surveys were
3 conducted in the project area during both winter,
4 that would be November and December of 1998, and
5 January 1999, and spring, April 1999. These
6 surveys were conducted primarily for federal and
7 state listed plant and animal species, in
8 accordance with the U.S. Fish and Wildlife Service
9 and California Department of Fish and Game
10 approved survey methodologies for sensitive
11 species. Concurrently, other special status plant
12 and wildlife species with a potential to occur in
13 the project area were also surveyed for.

14 During the surveys, all dens, burrows
15 and other evidence of special status species were
16 noted. A vascular plant list was compiled
17 consisting of all identifiable plant species
18 observed, sensitive plants and animals found at or
19 near the proposed project plant site, and along
20 the associated linear facilities are listed in the
21 FSA and PF -- and the AFC, excuse me.

22 The EHPP is seeking approval of its plan
23 to minimize and mitigate project impacts on
24 sensitive biological resource. They have
25 initiated consultation with CEC, the California

1 Department of Fish and Game, and U.S. Fish and
2 Wildlife Service. In addition, the Bureau of Land
3 Management is functioning as the federal nexus for
4 the Section 7 consultation.

5 Mitigation measures within Section 5.3,
6 the Section 7 in the permit, which is the
7 Biological Resources Implementation Program, will
8 minimize impacts to sensitive biological resources
9 and habitat, reducing potential impacts to less
10 than significant levels.

11 Q And do you adopt the testimony provided
12 in this -- in Biological Resources as your true
13 and sworn testimony in this proceeding?

14 A Yes, I do.

15 Q And does this testimony include your
16 best professional opinion?

17 A Yes, it does.

18 MS. LUCKHARDT: And, Dr. Little, will
19 the potential disturbance of Hoover's eriastrum
20 shown in Table 3 of the Final Staff Assessment
21 significantly impact Hoover's eriastrum in the
22 area?

23 DR. LITTLE: No, it will not. Hoover's
24 eriastrum is an annual species spread by seed
25 dispersal. This particular species actually does

1 better in areas of disturbance, and the project
2 disturbance on the species will not affect its --
3 its viability.

4 And in addition, the project is -- part
5 of the mitigation is purchasing mitigation credits
6 at the Lokern Mitigation area, which does include
7 populations of this species, and for these
8 reasons, there will not be a significant impact on
9 Hoover's eriastrum.

10 MS. LUCKHARDT: Thank you. And at this
11 time, I would like to move Applicant's Exhibits in
12 the area of Biological Resources into the record.

13 HEARING OFFICER WILLIAMS: Those will be
14 --

15 MS. LUCKHARDT: Those would be a portion
16 of 2-H, that would be Data Responses 34 and 50;
17 Exhibit Number 34, the Draft Biological Resources
18 Mitigation and Implementation Monitoring Plan; and
19 the Biological Resources portion of Exhibit 20-A.

20 HEARING OFFICER WILLIAMS: Are there any
21 objections?

22 MS. WILLIS: None.

23 MS. POOLE: No objections.

24 HEARING OFFICER WILLIAMS: So admitted.

25 (Thereupon, the Biological Resources

1 portions of Exhibits 2-H, 20-A, and 34
2 were received into evidence.)

3 MS. LUCKHARDT: These witnesses are now
4 available for cross.

5 MS. WILLIS: We have no cross
6 examination questions.

7 MS. POOLE: I have a few questions for
8 Dr. Little.

9 CROSS EXAMINATION

10 MS. POOLE: Dr. Little, on page 4 of
11 your testimony, you state that construction of the
12 water supply pipeline would permanently disturb
13 11.7 acres of Valley Saltbush habitat. Do you see
14 that?

15 DR. LITTLE: I'm still looking.

16 MS. POOLE: Okay.

17 DR. LITTLE: Yes, I see that.

18 MS. POOLE: Does this estimate of
19 permanent acreage disturbance include roads that
20 would be used for construction?

21 DR. LITTLE: No, it doesn't.

22 MS. POOLE: On page 5 of your testimony,
23 you state that the roads that would be used during
24 construction of the water supply pipeline would be
25 used for access for pipeline maintenance. So the

1 project will continue to impact these roads long
2 after construction has stopped; correct?

3 DR. LITTLE: The -- could I have just a
4 moment?

5 The -- the roads that will be put in I
6 believe will be used for maintenance and access to
7 the water pipeline.

8 MS. POOLE: So those roads will continue
9 to be impacted after construction has stopped;
10 correct?

11 DR. LITTLE: The one -- any new sections
12 that are constructed. I -- I need to recall here,
13 or try to find it, if these portions of the
14 pipeline roads are -- are already in. I need to -
15 - I don't recall if -- if the portions of these
16 roads are already in the -- in the area.

17 MR. RHODEHAMEL: Yeah. The portions of
18 that water pipeline, some of it is going to be
19 constructed all along the existing pipeline
20 corridor that has maintained roads for access to
21 this -- the existing pipelines. Another portion
22 of the pipeline will be underground, and will have
23 some construction related roadways put to it for
24 construction.

25 MS. POOLE: So the roads that will be

1 used continuously are roads that are currently
2 existing?

3 MR. RHODEHAMEL: Yes. There is a
4 portion of the pipeline, the water supply
5 pipeline, that will be constructed along existing
6 roadways. There's existing pipelines there, and
7 the pipeline will be constructed along that
8 existing right-of-way.

9 MS. POOLE: Okay. I'm a little unclear
10 about this portion that you're talking about.
11 What I'm trying to understand is if all of the
12 access roads that will be used for the water
13 supply pipeline are existing roads?

14 MR. RHODEHAMEL: All of the roadways?

15 MS. POOLE: Yes.

16 MR. RHODEHAMEL: There will be a portion
17 of roadway that will have to be constructed for
18 the pipe -- portion of the pipeline that runs
19 underground.

20 MS. POOLE: And will that road that's
21 constructed be used for access, once construction
22 is complete?

23 MR. RHODEHAMEL: I will have to check on
24 that.

25 MS. POOLE: Dr. Little, if roads are

1 continuous -- continually used by the project,
2 that would be a permanent disturbance; correct?

3 DR. LITTLE: Yes.

4 MS. POOLE: Thank you.

5 I have a similar question related to the
6 wastewater pipeline. On page 4, again, you state
7 that only 0.1 acre for the wastewater pipeline
8 would be permanently disturbed. Does that
9 estimate include roads?

10 MR. RHODEHAMEL: The water disposal
11 pipeline that's -- going to be built along the
12 existing roads for the entire length.

13 MS. POOLE: Okay. Well, on page 5 you
14 state that the same roads used during construction
15 of the wastewater pipeline would be used for
16 access. Are all of those roads existing?

17 MR. RHODEHAMEL: Yes, they are.

18 MS. POOLE: And those roads will
19 continue to be used by the project?

20 MR. RHODEHAMEL: Yes, they will.

21 MS. POOLE: Thank you.

22 On page 3 of your testimony, Dr. Little,
23 you identify the acreage that would be temporarily
24 disturbed by transmission line construction. What
25 activities are included in that estimate that are

1 not considered permanent impacts?

2 DR. LITTLE: The access roads -- I'm
3 sorry, the access roads that will be driven on to
4 the towers, to -- to set up the towers are not
5 considered part of the permanent access because
6 those roads will be abandoned.

7 MS. POOLE: Is that it?

8 DR. LITTLE: Yes. That -- that's all
9 that I am aware of.

10 MS. POOLE: And then again, on page 5,
11 you say for the transmission lines that the same
12 roads used during construction would be used for
13 access. Will those roads be continuously used?

14 DR. LITTLE: Yes, they will. Most of
15 those roads are in right now, and it's only the
16 roads that need to go off the right-of-way, off
17 the road to set up the towers that need -- that
18 would be new impact.

19 MS. POOLE: Well, your statement on page
20 5 indicates that those roads will -- will continue
21 to be used for access after construction.

22 DR. LITTLE: No, there's -- there's a --
23 there is a discussion in the testimony, or in the
24 FSA, which clarifies that, that the -- that these
25 little spur roads out to the towers themselves

1 will be -- will not be permanently affected.
2 There won't be a road built to each -- each and
3 every tower. There's -- there's linear access
4 roads which are used to -- to drive along the
5 tower sites, but the spur roads to the -- to the
6 towers themselves will not be permanently put in.

7 MS. POOLE: Will those spur roads
8 continue to be used after construction?

9 DR. LITTLE: No, they won't. They --
10 possibly the only time that they would be is if
11 they had to get in and replace a tower or a
12 conductor or an insulator, something like that.

13 MS. POOLE: So they would be used in
14 that instance.

15 DR. LITTLE: Well, only, you know, it
16 could be once every ten years, once every five
17 years, once every 20 years.

18 MR. RHODEHAMEL: Those would only be
19 used, like John said, for maintenance, and in
20 accordance with the Biological Mitigation Impact
21 Plan. They would have to have a pre-activity
22 survey prior to any access on those roadways. So
23 there would be a biological survey before to
24 assure that impacts to endangered species wouldn't
25 occur if we had to reoccupy those roadways, or

1 that access to a tower.

2 MS. POOLE: Each time the roads were
3 used a survey would occur?

4 MR. RHODEHAMEL: Each time the road was
5 used, yes.

6 MS. POOLE: Thank you.

7 I have another question about the
8 transmission line acreage impacts. I see in your
9 footnote here below the table on page 3, you
10 assume that 10,000 square feet per pole will be
11 impacted. And that number doesn't seem to add up
12 to the new permanent disturbance numbers, and I'm
13 wondering if you could explain that.

14 DR. LITTLE: Could you explain what --
15 what you mean by doesn't add up?

16 MS. POOLE: Well, if you multiply the
17 number of poles that will be constructed along the
18 various routes by 10,000 square foot of
19 disturbance per pole, it doesn't seem to add up to
20 the permanent disturbance numbers in the table.

21 DR. LITTLE: I would need to spend some
22 time on -- checking on that.

23 MS. POOLE: Okay. Let's move on then to
24 -- on page 6 of your testimony, under cumulative
25 impacts, you state that the Valley Floor HCP would

1 mitigate cumulative impacts by other projects.

2 The Valley Floor HCP has not been approved by the
3 U.S. Fish and Wildlife Service, has it?

4 DR. LITTLE: No, it has not.

5 MS. POOLE: So it's not binding on any
6 parties, is it?

7 DR. LITTLE: No, it is not.

8 MS. POOLE: Thank you. That's all my
9 questions.

10 HEARING OFFICER WILLIAMS: Thank you.

11 Is there any redirect?

12 MS. LUCKHARDT: Yes, there is.

13 REDIRECT EXAMINATION

14 MS. LUCKHARDT: I would ask Mr.
15 Rhodehamel to refer to the Walsh report, Response
16 to Data Request 34. It should be behind Tab 6 in
17 your binder. If you look at the Table 4. I'm
18 referring to the August 11th, 1999 response.

19 MR. RHODEHAMEL: Yes.

20 MS. LUCKHARDT: Table 4 as -- as it
21 refers to the water supply pipeline estimated new
22 permanent disturbance and estimated new temporary
23 disturbance.

24 MR. RHODEHAMEL: Uh-huh.

25 MS. LUCKHARDT: Would that include, or

1 does that include all construction in the area of
2 permanent disturbance, would that include all --
3 all roads to be maintained during operation of
4 that pipeline?

5 MR. RHODEHAMEL: That would be the 11.93
6 acres, is that what we are referring to?

7 MS. LUCKHARDT: I'm looking at -- I'm
8 looking at Table 4.

9 MR. RHODEHAMEL: Table 4?

10 MS. LUCKHARDT: Are you looking at a
11 different --

12 MR. RHODEHAMEL: No, no. Go ahead. I'm
13 at Table 4.

14 MS. LUCKHARDT: Okay. I'm looking at
15 Table 4 where it breaks out all of the disturbance
16 by section.

17 MR. RHODEHAMEL: Yes. By section.
18 Okay.

19 MS. LUCKHARDT: I don't know that that's
20 necessarily the one we need, but that one has
21 disturbance by section. Would that include on the
22 permanent disturbance all access roads that are to
23 be maintained and used for operations?

24 MR. RHODEHAMEL: Yes, it would.

25 MS. LUCKHARDT: And can you explain,

1 then, what the temporary disturbance would
2 include?

3 MR. RHODEHAMEL: Temporary disturbance
4 would include any access roadways that would not
5 be maintained after construction, or laydown areas
6 for pipe and other construction materials.

7 MS. LUCKHARDT: And does this report
8 contain all areas to be permanently disturbed or
9 temporarily disturbed for the water supply
10 pipeline route?

11 MR. RHODEHAMEL: Yes, it does.

12 MS. LUCKHARDT: And does it also include
13 all permanent and temporary disturbance for
14 transmission line routes and other linear
15 facilities?

16 MR. RHODEHAMEL: Yes, it does.

17 MS. LUCKHARDT: And Ms. Poole referred
18 to a table, Attachment A to Dr. Little's
19 testimony, which has a Footnote 1 which refers to
20 different numbers of disturbance per transmission
21 line poles. Are some of those for a temporary
22 disturbance and some of those for a permanent
23 disturbance?

24 DR. LITTLE: The acres in this table on
25 page 3 -- on page 3 for the transmission line have

1 both new permanent disturbance and new temporary
2 disturbance acres.

3 MS. LUCKHARDT: Okay. And that Footnote
4 1 that Ms. Poole was referring to seems to
5 reference the Walsh report. Is that where that
6 information came from?

7 DR. LITTLE: Yes, I believe that is
8 correct.

9 MS. LUCKHARDT: Would that mean that the
10 Walsh report would include all permanent and
11 temporary disturbance?

12 DR. LITTLE: It is my understanding that
13 it does.

14 MS. LUCKHARDT: Mr. Rhodehamel, is that
15 also your understanding?

16 MR. RHODEHAMEL: That's my
17 understanding, yes.

18 MS. LUCKHARDT: Thank you.

19 HEARING OFFICER WILLIAMS: Anything
20 further?

21 MS. POOLE: No recross.

22 HEARING OFFICER WILLIAMS: Okay.

23 I would state for the record that
24 Commissioner Moore has arrived. And I would also
25 like to introduce Ms. Ellen Townsend Smith, who I

1 failed to introduce at the beginning of the
2 hearing. She is Commissioner Pernell's advisor.

3 Okay. I think at this point we can take
4 up the matter of the motion.

5 Before -- well, first I'll close the
6 record on Biological Resources.

7 MS. LUCKHARDT: Do you want to continue
8 with Staff, or --

9 HEARING OFFICER WILLIAMS: Oh, I'm
10 sorry.

11 HEARING OFFICER WILLIAMS: Oh, I'm
12 sorry. I'm sorry. Staff.

13 MS. WILLIS: Shall we go ahead now?

14 HEARING OFFICER WILLIAMS: Yeah, go
15 ahead.

16 MS. WILLIS: Thank you. Staff calls
17 Linda Spiegel. And she'll need to be sworn in.

18 (Thereupon, Linda Spiegel was, by the
19 reporter, sworn to tell the truth, the
20 whole truth, and nothing but the truth.)

21 TESTIMONY OF

22 LINDA SPIEGEL

23 was called as a witness on behalf of the
24 Commission Staff, and being first duly sworn, was
25 examined and testified as follows:

1 DIRECT EXAMINATION

2 BY MS. WILLIS:

3 Q For the record, could you please state
4 your name?

5 A Linda Spiegel.

6 Q And Ms. Spiegel, did you prepare the
7 section of the Final Staff Assessment Part 2
8 entitled Biological Resources?

9 A Yes, I did.

10 Q And that's -- FSA Part 2 has been
11 identified as Exhibit 19-A.

12 Do you have any changes or corrections
13 to your testimony today?

14 A No, I don't.

15 Q Do the opinions contained in your
16 testimony represent your best professional
17 judgment?

18 A Yes, they do.

19 Q Could you please provide a brief summary
20 of your testimony?

21 A My analysis examined direct, indirect,
22 and cumulative impacts to biological resources,
23 specifically listed species, species of special
24 concern, and areas of concern.

25 The -- the project area, Elk Hills and

1 surrounding areas support several special status
2 species, and this is due primarily to severe
3 declines in habitat in that general area of the
4 San Joaquin Valley, primarily due to agricultural
5 development, and also due to the fact that most of
6 the species that occur there are endemics, or that
7 they only occur regionally.

8 Species compatibility with the -- with
9 oilfields in that area have been studied for a
10 couple of decades, and the majority of those
11 studies have come from the Elk Hills area, and
12 additional studies were from CEC staff directly
13 adjacent to Elk Hills.

14 And these studies basically show that
15 oil development, unlike agricultural or intensive
16 urban, do support these species because there's
17 enough habitat generally that remains intact. So
18 my analysis was based a lot on these studies, and
19 the surveys conducted, and site visits.

20 There are several special status species
21 observed at the project, and they include eight
22 plants, six mammals, nine birds, and two reptiles.
23 However, only one mammal species, the kit fox
24 primarily, the kit fox dens, a lot of them aren't
25 being used at the time. And one plant species,

1 which is eriastrum Hooveri, were positively
2 identified to occur within the construction
3 corridors themselves.

4 There's also a likelihood that the
5 bluntnose leopard lizard will occur there, but in
6 -- only in selected areas of appropriate habitat,
7 which is kind of sparse vegetation and lower leaf.

8 The -- the Applicant, and in my FSA we
9 have identified several avoidance measures, and an
10 intensive capture and release program that will be
11 employed to help prevent any losses of
12 individuals. And these mitigation measures have
13 been listed in the FSA and were explicitly laid
14 out in the Biological Resources Mitigation and
15 Implementation Plan.

16 Loss of habitat from the project
17 footprints is estimated to be around 15 acres for
18 permanent, and around 39 to 50 for temporary. And
19 this can be compensated by purchasing lands
20 offsite in an area that again has been extensively
21 studied by CEC, and is known to support all these
22 species, and will ultimately result in anywhere
23 from 98 to 111 acres being preserved.

24 This compensation also mitigates any
25 cumulative impacts, and in addition the cumulative

1 impacts have been reduced by the way the Applicant
2 has sited all the linears and the power plant site
3 in previously -- mostly previously disturbed areas
4 or along existing linears.

5 So it's my conclusion that the project
6 as described will have minimal impacts on the
7 listed species in the area, if the conditions of
8 certification are followed.

9 PRESIDING MEMBER MOORE: Thank you very
10 much. Counsel?

11 BY MS. WILLIS:

12 Q Does that conclude your testimony?

13 A Yes, it does.

14 Q Before we moved on I wanted to note that
15 we didn't -- I did not ask you if you included a
16 statement of your qualifications. Did you include
17 a statement of your qualifications?

18 A Yes.

19 MS. WILLIS: And we've previously marked
20 that as Exhibit 21-I.

21 Also, just for the Committee's -- if
22 there are any questions on timing, we do have
23 Susan Jones from the U.S. Fish and Wildlife
24 Service, and Donna Daniels with State Fish and
25 Game in the audience, if there are any further

1 questions.

2 PRESIDING MEMBER MOORE: They're
3 prepared to testify.

4 MS. WILLIS: They are prepared to, I
5 think, provide --

6 PRESIDING MEMBER MOORE: If -- if
7 questioned.

8 MS. WILLIS: -- question -- answers.

9 PRESIDING MEMBER MOORE: Understand.

10 MS. WILLIS: We'd like to move at this
11 time the Biological Resources section of 19-A into
12 the record, and also 21-I.

13 PRESIDING MEMBER MOORE: Any objections?
14 Moved into the record.

15 (Thereupon, the Biological Resources
16 portion of Exhibits 19-A and 21-I were
17 received into evidence.)

18 PRESIDING MEMBER MOORE: Ms. Luckhardt.

19 MS. LUCKHARDT: No questions.

20 PRESIDING MEMBER MOORE: Ms. Poole.

21 MS. POOLE: A couple of questions.

22 CROSS EXAMINATION

23 BY MS. POOLE:

24 Q Ms. Spiegel, have you calculated the
25 acres of habitat that would be temporarily and

1 permanently disturbed by the project?

2 A What do you mean have I calculated the
3 acres; based on the Walsh report?

4 Q I --

5 PRESIDING MEMBER MOORE: Wait. I
6 understood her to say 15 acres of permanent
7 disturbance. So is your question is there a
8 temporary disturbance, because she's already
9 answered the second part of your question.

10 MS. POOLE: No, actually she's -- she's
11 going to my question, which is whether she
12 personally has done a calculation of the acres
13 that would be disturbed, or whether she relied on
14 the Elk Hills -- the Applicant's information.

15 THE WITNESS: I relied on the Elk Hills
16 applications, and the Walsh reports in particular,
17 which I thought did a very detailed analysis on
18 both temporary and permanent impacts.

19 BY MS. POOLE:

20 Q Thanks. On page 15 of your testimony,
21 you note that the bluntnose leopard lizard is a
22 fully protected species, and -- but state that Elk
23 Hills only has to employ, quote, all feasible
24 means, unquote, to avoid take of this species. In
25 fact, doesn't the law require that Elk Hills avoid

1 take of this species, period?

2 A Right now it's fully protected, which
3 under that law no take is allowed. But I do
4 believe that all of the measures that will be
5 employed is -- will, in fact, very likely reduce
6 to no take.

7 MS. POOLE: Okay. Thank you.

8 PRESIDING MEMBER MOORE: Thank you. All
9 right. I don't have the schedule in front of me.
10 What --

11 HEARING OFFICER WILLIAMS: Do we have
12 all the exhibits in at this point?

13 MS. LUCKHARDT: On Biology, I think so.

14 HEARING OFFICER WILLIAMS: Okay. All
15 right. I think we can close the record then, on
16 Biological Resources, if there's nothing further.

17 The record is closed on Bio.

18 Let's take a five-minute break. Parties
19 come back in five minutes.

20 (Off the record.)

21 PRESIDING MEMBER MOORE: Let's go back
22 on the record.

23 All right. Before we pick up the next
24 topic, I have in front of me a petition filed
25 under Docket 99-AFC-1, Elk Hills, motion to deny

1 admission of testimony, filed by Downey, Brand,
2 Seymour and Rohwer, signed by Jane Luckhardt,
3 asking me to deny the admission of testimony on
4 Soils and Water from Dr. Fox.

5 After a discussion with my -- excuse me.
6 After discussion with my colleague and with
7 Counsel, what we'd like to do is to offer the
8 opportunity for the parties to present their case
9 on this orally, and take it under advisement and
10 determine what to do next.

11 So with that, Taylor, I'll turn to you
12 or Jane, and make your case.

13 MR. MILLER: All right. So may I just
14 ask a question, then?

15 PRESIDING MEMBER MOORE: Certainly.

16 MR. MILLER: The -- the procedure then
17 would be that you would not rule at this point on
18 the motion to deny, until --

19 PRESIDING MEMBER MOORE: Well, I think
20 we're probably going to -- yeah, I'll call a short
21 conference at the end, and then I will -- intend
22 to rule.

23 MR. MILLER: All right. I would like an
24 opportunity, if possible, to present argument on
25 the point.

1 PRESIDING MEMBER MOORE: Fine.

2 MR. MILLER: And if you'd like to do
3 that now, or --

4 PRESIDING MEMBER MOORE: I'd like you to
5 --

6 MR. MILLER: -- prefer not to.

7 PRESIDING MEMBER MOORE: Well, you'd
8 prefer not to?

9 MR. MILLER: Well, I'm asking if you
10 would prefer not to.

11 PRESIDING MEMBER MOORE: Oh, no. I -- I
12 want to make this as open as I can.

13 MR. MILLER: All right. I won't repeat
14 the what we put in our motion, other than just to
15 acknowledge that --

16 PRESIDING MEMBER MOORE: Taylor, let me
17 ask a favor of you. Would you move the microphone
18 closer? You have a soft voice --

19 MR. MILLER: Yes, I always have that
20 voice thing, don't I.

21 I'm very cognizant of the need and past
22 approach that this Committee has taken in other
23 cases, which has been taken to provide an open
24 proceeding and full opportunity for everyone to
25 present their case and to have their say.

1 Our feeling simply is that we also have
2 rules of order in these proceedings, and in this
3 case that rule simply was not followed when it
4 certainly could have been without any problem
5 whatsoever, to file the substantial testimony that
6 was filed on -- in Water Cooling policy, along
7 with everyone else's testimony on February 25th,
8 rather than two days before the hearing. And I
9 simply don't believe that it's -- it is
10 appropriate excuse or response that this is in --
11 in an answer or in response to the supplemental
12 testimony filed by Staff on March 2nd.

13 The issue on this cooling policy is
14 clearly laid out in the AFC itself, with an
15 analysis presented there. It was certainly fair
16 game and comment on the PSA, as well as in the
17 FSA, which was supplemented on February 18th. So
18 there's been months and months, in fact almost a
19 year of time available to prepare this testimony.
20 It was clearly in process substantially before
21 March 7th, and certainly before it would appear in
22 the March 2 supplement.

23 So I just don't think it's appropriate
24 to put us, as we have been put, into the position
25 of having less than two days to -- to prepare a

1 response to 72 pages of material on this topic.
2 So that's our position on that, and I appreciate
3 your consideration of it.

4 PRESIDING MEMBER MOORE: Counselor, do
5 you have an objection to Staff filing their
6 testimony after that visit?

7 MR. MILLER: No, I -- our understanding,
8 of course, was that was the primary purpose for
9 it, was to present their testimony after the
10 February 18 field trip on -- on the fault issue.

11 PRESIDING MEMBER MOORE: Just to make
12 sure that I wasn't thinking of something else, it
13 was my impression that we knew Staff was going to
14 make that trip, and that there would be testimony
15 filed. Were you --

16 MR. MILLER: Correct.

17 PRESIDING MEMBER MOORE: -- are you
18 under the same impression?

19 MR. MILLER: That's right. I have no
20 argument with that.

21 PRESIDING MEMBER MOORE: Now, my
22 impression at the end of that was that the
23 Intervenors indicated that they would be preparing
24 some response after that happened. Did you have a
25 different impression than I did?

1 MR. MILLER: No, but the response that
2 was prepared had absolutely nothing to do with the
3 field trip. The only topic that was included in
4 this responsive testimony was the cooling policy
5 that has been on the table for -- since day one in
6 this case. It had nothing to do with the field
7 trip whatsoever.

8 PRESIDING MEMBER MOORE: So if I try to
9 boil down your argument, I would say that if the
10 Intervenor's testimony followed the Staff field
11 trip and was confined to topics that were
12 discussed or discovered on that field trip, I
13 wouldn't have this letter in front of me.

14 MR. MILLER: Correct.

15 PRESIDING MEMBER MOORE: So it doesn't
16 have anything to do with the volume, it has to do
17 with the topic.

18 MR. MILLER: Well, I -- I think that's
19 -- I'll accept that refinement. But I think --

20 PRESIDING MEMBER MOORE: So they -- I
21 mean, they could've produced a 72 page comment and
22 critique on the field trip, and that would still
23 be within bounds.

24 MR. MILLER: If it was, in fact, a
25 critique on the field trip and not information

1 that was available and that could've been
2 submitted previously, as perhaps a comment on the
3 PSA, for example.

4 PRESIDING MEMBER MOORE: Thank you.
5 Counsel for Staff.

6 MS. WILLIS: Thank you.
7 Staff's supplement was primarily to
8 address --

9 PRESIDING MEMBER MOORE: Just take one
10 second and describe the field trip. Just recap
11 it.

12 MS. WILLIS: I'm going to have to have -
13 - the events surrounding it. I was not actually
14 at the site, but I can --

15 PRESIDING MEMBER MOORE: But you --
16 okay.

17 MS. WILLIS: The purpose of -- CURE had
18 raised an issue about a possible fault in the
19 area. We had decided, as Staff, that the most
20 appropriate way to deal with that would be to have
21 a site visit and have it publicly noticed, which
22 would involve all the parties and making sure that
23 -- and so that gave us the 10 to 14 days notice
24 time, which was --

25 PRESIDING MEMBER MOORE: So all the

1 parties were advised --

2 MS. WILLIS: All the parties were
3 advised.

4 PRESIDING MEMBER MOORE: -- and were all
5 parties represented?

6 MS. WILLIS: To my understanding, all
7 parties were represented by their respective
8 geologists or those technical folks that would be
9 viewing that -- that site.

10 PRESIDING MEMBER MOORE: Okay.

11 MS. WILLIS: The trip was held on the
12 18th of February, as it was -- I believe it was
13 notified in the -- in the Final Staff Assessment
14 Part 2, that this would be happening.

15 All parties were present. The -- the
16 supplement that Staff filed primarily addressed
17 Staff's assessment of that field trip. There was
18 also some discussion and clarification of
19 understanding of the State Water Resources Control
20 Board policy. That policy and that discussion was
21 also in the -- the Final Staff Assessment Part 2.
22 This wasn't new discussion, this was just a
23 clarification.

24 I've reviewed the Final Staff Assessment
25 Part 2, our supplement, and CURE's original

1 testimony, which was about a page and a half, that
2 was filed on time, and also CURE's supplemental
3 testimony which we received just on the 7th, just
4 two days ago.

5 I -- Staff, we have not found that
6 CURE's supplemental testimony was dependent upon
7 Staff's supplemental testimony, or on the site
8 visit. There is nothing in CURE's testimony about
9 that site visit or the issues that were raised.
10 And so we also would object to admission of this
11 testimony, and request denial of admission of the
12 testimony.

13 PRESIDING MEMBER MOORE: Mr. O'Hagan, do
14 you have additional comments? Mr. O'Hagan?

15 MR. ANDERSON: Excuse me. I'm Bob
16 Anderson.

17 PRESIDING MEMBER MOORE: I'm sorry. I
18 thought Mr. O'Hagan was here.

19 MS. WILLIS: Mr. O'Hagan is here. Mr.

20 --

21 PRESIDING MEMBER MOORE: Wasn't he on
22 the field trip?

23 MS. WILLIS: Mr. Anderson is the
24 geologist --

25 PRESIDING MEMBER MOORE: Excuse me. I

1 thought -- sorry about that. I thought that Joe
2 was --

3 MR. ANDERSON: I'm Robert Anderson, with
4 the Engineering Office for California Energy
5 Commission, and I was on the field trip.

6 PRESIDING MEMBER MOORE: I'm sorry.

7 MR. ANDERSON: I was one of the
8 individuals that actually asked for initiation of
9 the field trip, and also to have it noticed so
10 everybody could be in the loop as to what was
11 going on and meet at the appropriate time and
12 place.

13 PRESIDING MEMBER MOORE: And do you have
14 anything to add to what Staff Counsel has just
15 told us?

16 MR. ANDERSON: In as far as objection to
17 the admission of -- or the submission of the
18 materials? No, sir.

19 PRESIDING MEMBER MOORE: Thank you.

20 Ms. Poole?

21 MS. POOLE: Thank you.

22 PRESIDING MEMBER MOORE: Comments?

23 MS. POOLE: First of all, I would like
24 to agree that our supplemental testimony has
25 nothing to do with the geology field trip. That

1 occurred, and that is not what we're dealing with
2 today.

3 PRESIDING MEMBER MOORE: Let me stop
4 you there for a second. Did you not say to us, or
5 to me, I guess I was the only Commissioner here,
6 that there would be a response filed after the
7 field trip, and made it sound to me as though it
8 was going to comment on the results of that field
9 trip. Am I in error?

10 MS. POOLE: I must apologize,
11 Commissioner Moore. Perhaps Ms. Reynolds --

12 PRESIDING MEMBER MOORE: Okay.

13 MS. POOLE: -- made that statement, and
14 I wasn't aware of that. I have taken over the
15 case from her since that time. And so if we
16 promised the Commission a response, and I --

17 PRESIDING MEMBER MOORE: I'm just --

18 MS. POOLE: -- didn't do that, I
19 apologize.

20 PRESIDING MEMBER MOORE: -- I'm trying
21 to sort it out in my mind. Go ahead.

22 MS. POOLE: But there were two things
23 that remained unaddressed in Staff's testimony
24 that came in on the 18th, I believe, whenever the
25 due date was.

1 One was the impacts of this fault. The
2 other was very explicitly the project's compliance
3 with the state's dry cooling policy. Staff stated
4 in there that they were still trying to have
5 discussions with the Water Resources Control Board
6 about what that policy meant, and that they were
7 going to provide supplemental testimony on this.

8 When Dr. Fox filed her testimony by the
9 due date, and when the Applicant filed its
10 testimony by the due date, both explicitly stated
11 in there, noted that Staff had not completed their
12 analysis of the state water cooling policy, and
13 both reserved the right to file supplemental
14 testimony once Staff provided that analysis.

15 We received Staff's supplemental
16 analysis on Thursday, a week ago today. We were
17 dismayed to find that it didn't have the cost
18 analysis in it which is required, which the
19 Commission has to do under the State Water Code
20 and under the Warren-Alquist Act. The Applicant
21 has also not provided that cost analysis. So we
22 felt it incumbent on us to provide that analysis.

23 The Applicant has implied that we've had
24 this prepared and up our sleeve for some time.
25 That's simply not true. We began preparing this

1 analysis on Friday. We busted our behinds to get
2 it done over the weekend, specifically so that we
3 could file it on Monday and give the Committee and
4 give the parties an opportunity to look it over
5 before we got here today.

6 PRESIDING MEMBER MOORE: Counselor, can
7 you tell me a response -- offer a response to the
8 comment about the cost calculations?

9 MS. WILLIS: Well, Staff -- Staff
10 believes that CURE -- I mean, we -- we have a
11 record of conversation from Dr. --

12 PRESIDING MEMBER MOORE: Wait, I need to
13 just go back to the -- to the requirement that
14 there be a cost element in there, and Ms. Poole is
15 suggested that it is not there. And what I'd like
16 to do is to get you to address, before you go to
17 your other point, I'd like to get you to address
18 that specifically.

19 MS. WILLIS: I'm going to have Mr.
20 O'Hagan address that point.

21 PRESIDING MEMBER MOORE: Sorry I
22 confused that. I thought that you were on the
23 field trip, so.

24 MR. O'HAGAN: Oh, no. I -- Bob was the
25 expert on the geology.

1 We do provide relative cost estimates,
2 and some absolute cost estimates in the Staff
3 Final Assessment. These are based on information
4 that we've gotten from CalPine's Sutter project,
5 information that was submitted on other projects
6 like High Desert Power Project, Three Mountain
7 Power Project; information we have gotten from the
8 Crockett facility, which is an existing dry
9 cooling facility on the Carquinez Straits.

10 So we do have costs information. It was
11 the information that we used in the La Paloma
12 siting case, as well. And it's been fairly
13 standard that there is a significant capital cost
14 associated with using dry cooling, and then
15 there's also efficiency loss, which is a cost as
16 well.

17 We don't have the specific breakdown
18 that Dr. Fox provided. We -- I am not aware of
19 any regulations requiring that specificity, you
20 know, if the Committee finds it helpful. I think
21 the important question is, is what the policy
22 requires and, you know, what is the economic test.
23 But we do have some cost estimates in our
24 testimony.

25 PRESIDING MEMBER MOORE: And in your

1 opinion, in Staff's opinion, and Counsel's
2 opinion, you believe that that's adequate?

3 MR. O'HAGAN: Yes, I do. It was the
4 information we provided in the La Paloma siting
5 case under the requirements of the Inland Cooling
6 -- sources of cooling water policies, Policy 7558
7 of the State Board, and we did -- that was the
8 information we used, and the Committee accepted it
9 and agreed with the analysis that dry cooling
10 would be an economic burden on the Applicant.

11 PRESIDING MEMBER MOORE: Okay.

12 MS. WILLIS: And may I add -- excuse me.
13 May I add one point? We also felt that Dr. Fox
14 could've provided this testimony on the -- on a
15 timely manner on the date that it was due. I
16 mean, to say that this is in response to Staff's
17 supplement just seems -- to me, it doesn't -- it's
18 not an adequate argument for filing such a lengthy
19 testimony. Dry cooling was -- was mentioned and
20 discussed in the FSA Part 2.

21 MS. POOLE: Well, we were hoping not to
22 prepare this analysis. The party with the burden
23 of proof didn't provide any cost information.

24 PRESIDING MEMBER MOORE: Any -- any cost
25 --

1 MS. POOLE: I have to take issue with
2 Mr. -- what Mr. O'Hagan is saying. All that
3 Staff's -- all the FSA states, this is the cost
4 analysis. The use of alternative cooling
5 technology would result in even more significant
6 costs. There are no numbers in here. That's not
7 an analysis, that's a conclusion. And what's
8 required under the Inland Cooling policy is a cost
9 analysis of dry cooling. And we don't think that
10 that satisfies that requirement.

11 MR. MILLER: May I offer a brief retort?

12 PRESIDING MEMBER MOORE: Before you do,
13 let me make sure that I understand Ms. Poole's
14 point clearly.

15 You're maintaining that the Staff
16 supplemental testimony, not the filed FSA, but the
17 supplement to the FSA, was deficient in the area
18 of dry cooling in the sense that it did not
19 provide sufficient specificity in terms of
20 numbers. And not -- and that's the basis for your
21 filing, not the field trip that was taken. You're
22 submitting that there is no connection between the
23 two.

24 MS. POOLE: That's correct.

25 PRESIDING MEMBER MOORE: In fact,

1 different --

2 MS. POOLE: On both points, that's
3 correct.

4 PRESIDING MEMBER MOORE: Mr. Miller.

5 MR. MILLER: I was just going to add
6 that it seems to me that CURE has never been
7 bashful about offering its opinions without
8 waiting for Staff necessarily. And given the fact
9 that we have the precedent of La Paloma where this
10 same issue was decided not to require dry cooling,
11 and given the -- the state of the record in the
12 FSA, it was quite predictable that Staff would not
13 provide a different answer here than it did
14 before.

15 And if they felt strongly that this
16 should be considered more carefully, then the
17 thing to do would be to put a comment in on the
18 PSA, for example, or to put testimony in on
19 February 25th which then we would all have the
20 opportunity to review and could address between
21 now and then -- then and now.

22 I don't think that the trigger is pulled
23 on this issue by the filing on March 2nd of the
24 Staff testimony.

25 PRESIDING MEMBER MOORE: So, Mr. Miller,

1 if I recap your latest point, what I translate
2 that to mean is that because this was not a
3 favored option in any case, wasn't going to be
4 used because it didn't -- didn't meet either the
5 test of a previous plant that went through a
6 similar siting process, and because you felt that
7 you had an acceptable alternative to it that was
8 cost effective, it simply didn't merit or, in
9 fact, get any further treatment, and that that was
10 evident as early as the PSA.

11 MR. MILLER: I'm saying that it was
12 obviously an issue as early as the PSA, that it
13 was predictable to be addressed, and that given
14 the precedent in La Paloma, it was perhaps
15 predictable, or certainly not surprising, in any
16 event, that it would -- would come out not to
17 require dry cooling, or not to have a different
18 kind of analysis than was presented in La Paloma.

19 So there's no -- there's no issue of
20 notice of this issue in this case. And it wasn't
21 necessary to spring this on us two days before the
22 hearing. It certainly could've been included in
23 the February testimony. And I think if you look
24 at the testimony, including a table, a cost
25 analysis, with all respect to Dr. Fox's abilities

1 to produce information and testimony in volumes,
2 there's probably 45 or 50 variables that are
3 included in those calculations.

4 There's a lot of citations of other
5 documents. It is something that obviously is a
6 work in progress, and I think that there's just no
7 excuse for not --

8 PRESIDING MEMBER MOORE: You were
9 referring to Dr. Fox's submission.

10 MR. MILLER: Yes, sir. There's no
11 excuse for filing essentially a critique on the
12 FSA late. It simply should have been submitted on
13 March 25th, along with all the other testimony
14 that was submitted, period.

15 PRESIDING MEMBER MOORE: Counselor, your
16 response to that. I mean, do you feel that the
17 sequence described by Mr. Miller accurately
18 describes what your Staff prepared?

19 MS. WILLIS: We do. We did address dry
20 and wet/dry cooling on page 16 and 17.

21 MR. O'HAGAN: I need to clarify. In the
22 testimony we provide relative cost in terms of dry
23 cooling. I -- I think I indicated earlier to you
24 that we had some absolute numbers, and that's
25 incorrect. I apologize.

1 PRESIDING MEMBER MOORE: It's incorrect.

2 MR. O'HAGAN: Incorrect. The number --
3 well, the information I provided in the Final
4 Staff Assessment was a relative cost.

5 MR. MILLER: We -- we would offer also
6 on that, that there's nothing in the state policy
7 that requires a quantitative cost benefit
8 analysis, anyway. The qualitative analysis is
9 certainly within the bounds, and so I don't accept
10 Counsel for CURE's characterization that a cost
11 analysis somehow was missing, that Staff had an
12 obligation that they then stepped up and
13 undertook. I don't think that policy requires
14 that.

15 PRESIDING MEMBER MOORE: Counselor?

16 MS. WILLIS: Thank you. As I was
17 saying, we did provide -- there was testimony on
18 page 16 and 17 under the title dry and wet/dry
19 cooling in the Part 2 section of the FSA that was
20 filed on February 18th. The conclusions and
21 recommendations section on page 21 basically --
22 the sentence says this is because -- that we were
23 not able to make a recommendation, this is because
24 the Staff has not completed analysis of the
25 project's conformity with the SWRCB policy, nor

1 has the potential impacts from the injection wells
2 been thoroughly addressed.

3 I believe the issue specifically about
4 dry cooling has been addressed here. They were --
5 they were referring to the field trip to discuss
6 the lineations and also to clarify our
7 interpretation of the policy. I -- we felt that
8 we were sprung with a lot of information at the
9 last minute, and I do agree with the Counsel for
10 the Applicant that the -- the charts and the --
11 and the tables, we would -- we would have a lot of
12 time and effort trying to figure out what is
13 accurate in that. They're -- they -- she lists
14 vendor. We don't even know who the vendor is to
15 -- or what -- what that means.

16 So I think that's -- that would be our
17 objection at this point, that the -- the testimony
18 could have been filed earlier.

19 PRESIDING MEMBER MOORE: Ms. Poole,
20 you'll have the last word.

21 MS. POOLE: Thank you.

22 Three very brief points. Mr. Miller is
23 objecting that we didn't file our critique of the
24 FSA sooner. Well, we can't file a critique of the
25 FSA until we have the FSA -- excuse me --

1 addressing the -- the appropriate issue.

2 Let me read to you what the FSA, the
3 original FSA that was filed on February 18th
4 states. Staff is continuing to evaluate project
5 compliance with this policy -- referring to the
6 State Water Cooling policy -- and will provide its
7 analysis in supplemental testimony. We received
8 the supplemental testimony providing its analysis
9 on Thursday, and we turned around this testimony
10 as quickly as we could.

11 And there's also some questions about
12 what exactly a cost analysis is. Commissioner
13 Moore, I'm sure you're familiar with what a cost
14 analysis is, as an economist, and I'll simply
15 leave that to you.

16 The Committee, you know, we would like
17 to take care of this today, but the Committee has
18 scheduled a date of March 23rd for continuation of
19 these hearings. If the parties would like to
20 address this then, to give them more time to go
21 through what we filed, that's fine with us.

22 PRESIDING MEMBER MOORE; Okay. Well,
23 thank you. I'm sorry. Commissioner Pernell.

24 COMMISSIONER PERNELL: Let me just say,
25 as the new Commissioner to this proceeding, it

1 appears to me, from the testimony that's been
2 submitted here, that it would not add any
3 additional time to the -- to this proceeding if we
4 allow this in. It also appears to me that there
5 are some inconsistencies as to cost analysis and
6 -- and some ambiguity there.

7 I would suggest that -- that we allow
8 some additional time for this testimony, allow
9 Staff additional time to respond to it, as well as
10 the Applicant, and -- and move on in that fashion,
11 because we want to have -- at least in my opinion,
12 we want to have everything out on the table and
13 addressed.

14 And so if -- and I'm not sure what the
15 order is, Commissioner Moore, but certainly it
16 would be my intent to allow this additional
17 information in if it's not going to add
18 significant time to our proceedings.

19 PRESIDING MEMBER MOORE: We're going to
20 take just a couple of minutes and caucus up here.
21 Hang on, and we'll make a decision and we'll come
22 back to you.

23 (Pause.)

24 HEARING OFFICER WILLIAMS: Okay. I'll
25 just put that on the record before we get into --

1 Commissioner Moore gets into the matter of the
2 motion.

3 Okay, back on the record.

4 PRESIDING MEMBER MOORE: All right. We
5 -- we are on the record. We have, as I indicated
6 previously, a motion to deny the admission of
7 testimony.

8 I am going to rule against this motion,
9 and admit the testimony. And I want to explain
10 why, because it will have ramifications for the
11 way Staff presents information and the procedures
12 that we use in the future, and I want to make sure
13 that it's clear about the reason that I'm doing it
14 this way.

15 I think the process which allows us to
16 continuously reinvent or redefine the project and
17 the analysis of it is flawed to the point where
18 we, the Energy Commission, need to take steps
19 clearly to try and clean it up and make it -- to
20 routinize it in such a way that it's more
21 predictable. This does not seem very predictable
22 to me.

23 On the other hand, it does seem to me
24 that on the narrow point of the Staff and -- I'm
25 sorry, Staff statement that they would be

1 submitting supplemental testimony, that could've
2 been interpreted as supplemental testimony with
3 regard to, in this case, the dry cooling, and not
4 necessarily the way that I heard it, or thought I
5 heard it, about the field trip, then I think that
6 that testimony is relevant and should be in.

7 I would probably not rule that way had
8 the Staff document been more complete, had the
9 Staff document referred back to La Paloma or other
10 cases where there was data available. It's --
11 this shouldn't be dependent on an individual
12 Commissioner or their background or predilections.
13 But, in fact, I probably respond to having more
14 formulaic information when it's available to back
15 up the points that I see, and it makes it easier
16 for me to make a decision.

17 But I think regardless of that, this is
18 -- this is a case where -- there was more detail
19 probably called out in the conclusions. I believe
20 that we own that data. I believe that we
21 collectively, the Staff either owns or is capable
22 of making that interpretation, and I think it
23 probably should have been in.

24 So in the future, I think that this is
25 -- this is a lesson learned, and I'm going to try

1 and make it as painless as we can. I'm going to
2 use -- I have not wanted to use the 23rd, really
3 didn't, but we'll -- we'll make that day available
4 for comments back, to give the Applicant a chance
5 to respond on this issue.

6 Complicated -- a complicated situation.
7 I think that I am trying to err in favor of having
8 the most complete public testimony and public
9 evaluation of this that we possibly can. On the
10 other hand, it strikes me that this would've been
11 an easier road, since we're referring to a case
12 that has already been adjudicated, to have
13 referred more completely back to that. And it
14 would've made -- in fact, had I had that in the
15 record, I am sure that I would have upheld the
16 motion to deny the admission of the -- of the
17 evidence.

18 But in the interest of making sure that
19 the record is 100 percent clean, I'm going to
20 allow this to come in.

21 So with that, I -- I trust that the
22 lesson is clear. I demand, and I suspect that any
23 thinking person on Staff would demand, as well, a
24 complete, a thorough, and a rigorous analysis.
25 And it's simply not going to do to have topical

1 references where discrete and factual references
2 are what are called for.

3 And I think we can do better. That
4 applies to Applicant, as well, of course, in their
5 submissions. And I hope that we start getting
6 more complete submissions so we don't start
7 redefining, or keep redefining the projects as we
8 go along every time we -- we have a hearing.

9 That's a long-winded explanation of why
10 I'm ruling the way that I am, and we're going to
11 proceed.

12 MR. MILLER: May I please make a
13 comment?

14 PRESIDING MEMBER MOORE: Mr. Miller.

15 MR. MILLER: Not to re-argue the point
16 whatsoever. I just --

17 PRESIDING MEMBER MOORE: Of course not.

18 MR. MILLER: -- had a question. I
19 wouldn't think of --

20 PRESIDING MEMBER MOORE: But in re-
21 arguing the point --

22 MR. MILLER: No, I promise I won't.

23 I would -- of course we were -- we were
24 unhappy about the lateness, but we did what we
25 could to prepare. And what I'm wondering is

1 whether it wouldn't make sense to go forward
2 today. We're not -- we're not particularly
3 interested in the delay, either. The problem with
4 this whole thing is that it puts us in a --

5 PRESIDING MEMBER MOORE: I'm -- I'm
6 happy to -- I'm happy to do that. Frankly, I
7 don't think -- careful here. I don't think that
8 what's likely to be offered in testimony, given
9 the fact that it's been in the public arena
10 before, is likely to give you much discomfort. If
11 you're okay to talk on the record about it, we
12 probably can deal with it today.

13 I was simply trying to give you the
14 option --

15 MR. MILLER: All right.

16 PRESIDING MEMBER MOORE: -- that would
17 allow you time, if you needed it.

18 MR. MILLER: We're prepared to go
19 forward today, and see how we do. We can revisit
20 the issue if you'd like.

21 PRESIDING MEMBER MOORE: Okay. All
22 right, we'll do that.

23 Major?

24 HEARING OFFICER WILLIAMS: Excuse me one
25 second.

1 Staff, are you prepared to go forward on
2 this issue?

3 MS. WILLIS: Yes, we can go forward.

4 HEARING OFFICER WILLIAMS: Okay. Then
5 the only other thing I would do is segue into a
6 change in exhibits. We've changed Mr. O'Hagan's
7 declaration, we've re-marked it as 21-J. I think
8 we had listed it out of order before as 21-L.
9 It's now 21-J.

10 (Thereupon, Exhibit 21-L was re-marked
11 as Exhibit 21-L for identification.)

12 HEARING OFFICER WILLIAMS: And with that
13 change, I think we are ready to proceed with the
14 Applicant's presentation on Soil and Water
15 Resources.

16 MR. MILLER: Very good. Just a moment,
17 we'll bring our first witnesses up.

18 What we'd like to do by way of
19 introduction is handle general overview and
20 sponsorship of the AFC and certain basic documents
21 first. We'd like to deal with Water Supply issues
22 first, and that would include the two gentlemen
23 here, that would be Gary Cronk, who -- and Mr.
24 Brian Patrick. Then subsequent to Mr. Patrick's
25 testimony on supply, if we're going to be dealing

1 with alternative supply, it might then be an
2 appropriate time to deal with that. And we have a
3 witness, Mr. Joe Rowley, to do that.

4 Following that, we have two further
5 witnesses, Ms. Donna Thompson and Mr. Barry
6 Hanson, who would be available to offer some
7 direct testimony on disposal.

8 So if that's agreeable as an order of
9 business, that's how we'd like to proceed. We
10 have basically two chairs and five witnesses, so
11 we have to do this in a tag team.

12 HEARING OFFICER WILLIAMS: Well, I think
13 as a matter of order we should probably swear
14 those witnesses who haven't been sworn.

15 MR. MILLER: Correct.

16 HEARING OFFICER WILLIAMS: Is there any
17 objection to --

18 MS. POOLE: No objection.

19 HEARING OFFICER WILLIAMS: -- the
20 presentation order?

21 MR. MILLER: What we'd like to do is
22 complete our direct testimony entirely on all
23 subjects, and then offer our witnesses for cross
24 examination at that point.

25 HEARING OFFICER WILLIAMS: Any objection

1 to that?

2 All right. Go ahead.

3 MR. MILLER: Thank you. So we'll
4 proceed, starting with Mr. Cronk.

5 HEARING OFFICER WILLIAMS: Let's swear
6 the witnesses first.

7 MR. MILLER: Oh, I'm sorry. Could you
8 swear the witnesses please?

9 (Thereupon, Gary Cronk and Brian
10 Patrick were, by the reporter,
11 sworn to tell the truth, the whole
12 truth, and nothing but the truth.)

13 TESTIMONY OF

14 GARY CRONK

15 called as witnesses on behalf of the Applicant,
16 being first duly sworn, were examined and
17 testified as follows:

18 MR. MILLER: And I've cleared the deck
19 from the motion. Excuse me.

20 DIRECT EXAMINATION

21 BY MR. MILLER:

22 Q Mr. Cronk, could you please state your
23 name and occupation for the record?

24 A My name is Gary Cronk. I'm a Consulting
25 Environmental Engineer with Foster --

1 Environmental.

2 Q And your business address, please?

3 A It's in Costa Mesa.

4 Q It's in your pre-filed testimony, as
5 well?

6 A Yes.

7 Q Could you briefly summarize your
8 educational background, although it's in your pre-
9 filed testimony, as it may be relevant to this
10 portion of the case?

11 A I'm a licensed professional engineer,
12 have about 25 years experience, have a Master's
13 degree.

14 Q Could you please explain the purpose of
15 your testimony?

16 A It's to determine if there are going to
17 be any impacts in water resources and soil
18 resources.

19 Q Are you sponsoring any portions of the
20 Application for Certification?

21 A Yes, I am. I'm sponsoring AFC Sections
22 5.4, Water Resources; Section 6.5.4, Water
23 Resources LORS; AFC Section 5.6, Agriculture and
24 Soils; and Section 6.5.6, Agriculture and Soils
25 LORS.

1 Q And that would be Exhibit 1 --

2 A Right.

3 Q -- all those references.

4 Are you sponsoring any portions of other
5 exhibits?

6 A Yes. I'm sponsoring Response to Staff
7 Data Request Numbers 22 and Number 62, which is
8 the Draft Erosion Control Plan, and Storm Water
9 Management Plan, and Response to CURE Data Request
10 78.

11 Q All right. And those would be
12 respectively Exhibits 2-A, 2-F, and 3.

13 Do you have any corrections to make to
14 any of the portions of the exhibits you are
15 sponsoring?

16 A No, I don't.

17 Q Are you sponsoring any other testimony
18 in this proceeding?

19 A Yes. I'm sponsoring testimony included
20 in the attachments, Attachment A, Testimony of
21 Gary Cronk regarding Agriculture and Soils, and
22 Attachment B, Testimony of Gary Cronk regarding
23 Water Resources.

24 Q Do you adopt the testimony included in
25 -- excuse me, and those would Attachments A and B

1 to your pre-filed testimony?

2 A Yes.

3 Q And do you adopt the testimony included
4 in Attachments A and B and your other portions of
5 your pre-filed testimony in the exhibits you've
6 identified previously as your true and sworn
7 testimony in this proceeding?

8 A Yes, I do.

9 Q And that includes your application of
10 your best professional opinion?

11 A Yes.

12 Q Could you please summarize your
13 testimony?

14 A According to a soil survey performed by
15 the U.S. Conservation Service in 1986, soils at
16 Elk Hills Power Project are generally
17 characterized as sandy loam, with about five or
18 twenty percent clay content. They are moderately
19 susceptible to sheet and rail erosion. Twenty-six
20 unique soil types have been identified at the oil
21 -- Elk Hills oilfield, and another six soil types
22 have been identified on adjacent agricultural
23 lands along the transmission line route. Most of
24 the soils exist on slopes ranging from five to
25 fifty percent.

1 Some short term soil erosion impacts
2 will occur from disturbance of soils during
3 construction activities. The impacts are not
4 expected to be significant because construction
5 activities will be performed in accordance with
6 best management practices and an erosion control
7 plan will be prepared, as well as a storm water
8 pollution prevention plan to be approved in
9 advance by the Regional Water Quality Control
10 Board. A draft version of the erosion control
11 plan and the storm water management plan were
12 submitted in response to Data Request Number 62.

13 Wastewater disposal from the Elk Hills
14 Power Plant will not cause a violation of water.
15 Quality objectives are waste discharge
16 requirements, blow-down water in the cooling
17 towers will be recirculated six times to reduce
18 water -- overall water requirements. The cooling
19 tower blow-down and other wastewaters will be
20 disposed of via deep well injection into the high
21 TDS Tulare formations.

22 Water supply requirements for the Elk
23 Hills Power Project are approximately 3200
24 acre/feet per year. The water will be supplied by
25 the West Kern Water District, who currently

1 supplies local customers in the vicinity of the
2 project. The West Kern Water District has
3 confirmed that it has adequate supplies to provide
4 the project and it will not cause impacts to its
5 operations.

6 MR. MILLER: Thank you. I'd like to now
7 turn to Mr. Patrick.

8 TESTIMONY OF
9 BRIAN PATRICK

10 called as a witness on behalf of the Applicant,
11 being first duly sworn, was examined and testified
12 as follows:

13 DIRECT EXAMINATION

14 BY MR. MILLER:

15 Q Mr. Patrick, could you please state your
16 name and occupation for the record?

17 A My name is Brian Patrick. I'm the
18 Director of Operations for West Kern Water
19 District.

20 Q And your business address?

21 A It's 800 Kern Street, Taft, California.

22 Q And could you please describe your
23 educational background and experience related to
24 your testimony in the proceeding?

25 A Yes. I -- I graduated from USC in 1968.

1 I have a BS in Civil Engineering. I'm a
2 Registered Professional Engineer, and I have about
3 almost 30 years experience in the field of civil
4 engineering.

5 Q Thank you. Could you explain the
6 purpose of your testimony, please?

7 A The purpose of the testimony is to
8 describe the water supply to the Elk Hills Power
9 Project.

10 Q Are you sponsoring any portions of
11 Exhibit 1, the Application for Certification, for
12 the Elk Hills Project?

13 A Yes, I am. I'm sponsoring AFC Sections
14 5.41.4, 5.42.1, and Appendix N.

15 Q And are you sponsoring any portions of
16 any other exhibits?

17 A Yes, I am. I'm sponsoring Staff Data
18 Request Numbers 60 and 61, and response to CURE
19 Data Request Number 86.

20 Q And those would be, respectively,
21 Exhibits 2-F and 3. Do you have any corrections
22 to make to the portions of the exhibits that
23 you're sponsoring?

24 A No, I don't.

25 Q And are you sponsoring any further

1 testimony in this proceeding?

2 A Yes. Also Attachment A to the pre-filed
3 testimony.

4 Q And that would be Testimony of Brian
5 Patrick regarding water supply in support of the
6 Application for Certification for the Elk Hills
7 Power Project.

8 A Yes.

9 Q And do you adopt the testimony included
10 in those portions of the exhibits identified above
11 and also in your pre-filed testimony are your true
12 and sworn testimony in this proceeding?

13 A Yes, I do.

14 Q And that is with the application of your
15 best professional opinion -- best professional
16 judgment, excuse me.

17 A Yes.

18 Q Could you please summarize your
19 testimony?

20 A Yes, I'd be glad to.

21 Some details on the water supply for the
22 project. West Kern Water District is an M&I
23 district, currently serves about 6500 domestic
24 customers and approximately 400 major industrial
25 customers. Eighty percent of our revenues are

1 from industrial, about 20 percent from municipal.

2 The district operates a production well
3 field about 15 miles northeast of Taft, in the
4 Tupman area. The average pumping capacity is
5 about 8,000 gallons a minute, with a maximum
6 capability of about 22,000 gallons a minute. The
7 district has recharge obligations for withdrawals
8 greater than 3,000 acre/feet per year.

9 The district, to meet the recharge
10 obligations, has a contract with the Kern County
11 Water Agency to obtain water from the State Water
12 Project. Its entitlement is 25,000 acre/feet per
13 year. The water is regulated for West Kern Water
14 District through an arrangement it has with the
15 Buena Vista Water Storage District. Buena Vista
16 accepts the water from the state, then uses the
17 water for irrigation. The district can then, in
18 turn, pump or bank the equivalent volume. The
19 average banked water since 1979 is about 11,500
20 acre/feet per year. Total water currently banked
21 is now approximately 230,000 acre/feet.

22 West Kern Water District has never drawn
23 against its bank, but has always added to it. In
24 wetter years, West Kern Water District has
25 purchased additional water from the state on an

1 interruptible basis.

2 The proposed project, Elk Hills Power
3 Project, will require about 3180 acre/feet per
4 year, which is an average of about 2,000 gallons a
5 minute, with peak flows of about 3,000 gallons a
6 minute. This demand is well within the capacity
7 of West Kern Water District. The water will be
8 conveyed to the project by means of a new
9 pipeline, a new 16 inch diameter pipeline
10 extending from the existing facilities located
11 easterly of the power plant.

12 Cumulative impacts. There -- there are
13 four power --power plant projects that are
14 currently being considered within the district.
15 If all are approved, they will require about
16 10,770 acre/feet per year. This project demand,
17 when added to our current demand of about 13,500
18 acre/feet per year, less the 3,000 acre/feet
19 historical rights that we have, total about 22,000
20 acre/feet per year.

21 The State Water Project is sufficient --
22 the State Water Project entitlement is sufficient
23 to cover this demand, assuming near full
24 deliveries.

25 In conclusion, based on West Kern Water

1 District's annual water supplies, banked
2 groundwater, groundwater management practices
3 including in lieu arrangements with Buena Vista
4 Water Storage District, the Elk Hills Power
5 Project is not expected to significantly impact
6 our groundwater resources.

7 Q Thank you. I just have a couple of
8 additional questions for Mr. Patrick.

9 Could you ask -- could you tell me,
10 please, with -- with or without the Elk Hills
11 Power Project, was your deliveries of state water
12 be the same?

13 A Yes, they would.

14 Q Because you take all the allocation that
15 the district is entitled to in each year?

16 A That's correct.

17 Q Thank you. So in that respect, there's
18 no -- there's no impact on Delta deliveries with
19 or without the project?

20 A I agree with that.

21 Q Thank you. In your experience, and with
22 your knowledge of the past history of the
23 district, are there any general water shortages
24 that you would have encountered in the last period
25 of recent memory, at least?

1 A No. I -- I've been with the district
2 since August of '97, and there hasn't been any
3 curtailments since then. But -- but I also know
4 that there hasn't been curtailments of any
5 significance that I'm aware of at all.

6 MR. MILLER: Thank you. That concludes
7 Mr. Patrick's testimony.

8 We'd now like to change the order of
9 witnesses here, and bring up the next -- Mr.
10 Rowley was previously sworn, in earlier hearings
11 on this proceeding. He previously sponsored
12 Section 3 of the AFC, but we'll repeat that to be
13 clear on it for the record, and what portion of
14 that we're going to be addressing.

15 TESTIMONY OF
16 JOSEPH ROWLEY
17 called as a witness on behalf of the Applicant,
18 having been previously duly sworn, was examined
19 and testified as follows:

20 DIRECT EXAMINATION

21 BY MR. MILLER:

22 Q So, Mr. Rowley, could you please just
23 restate your name for the record, I guess.

24 A My name is Joe Rowley. I'm with Elk
25 Hills Power and Sempra Energy.

1 Q And your position with the project?

2 A I'm Vice President of Elk Hills Power,
3 and I'm sponsoring Section 3.11 alternatives.

4 Q Thank you. Would you please summarize
5 your testimony?

6 A Sure. The -- we looked at five
7 different water supplies for the project, and we
8 also looked at dry cooling. The five different
9 water supplies were Elk Hills produced water,
10 Tulare Formation Groundwater, Kern Water Bank
11 Authority, Buena Vista Water Storage District, and
12 the West Kern Water District.

13 And as guided by the State Water Policy,
14 we performed a comparative analysis of -- of those
15 alternatives, as well as a comparative analysis of
16 the option of dry cooling. There's a table on
17 page 3-91 and 3-92 of the AFC in Exhibit 1, and
18 I've prepared a overhead of that table and if I
19 could use that overhead it may speed things along.

20 HEARING OFFICER WILLIAMS: Sure.

21 (Inaudible asides.)

22 HEARING OFFICER WILLIAMS: Let's go off
23 the record for a minute or so, see if we can get
24 this to work.

25 (Off the record.)

1 HEARING OFFICER WILLIAMS: Back on the
2 record.

3 Let's mark the paper chart.

4 MR. MILLER: All right. Just for the
5 record, the chart that was being relied upon in
6 this part of the testimony is simply a
7 reproduction of the same chart that was in the --

8 (NOTE: Problems with microphones.)

9 MR. MILLER: All right, I think we're on
10 the record at this point.

11 HEARING OFFICER WILLIAMS: Let's just
12 re-mark it.

13 MR. MILLER: All right. That'll be
14 fine.

15 HEARING OFFICER WILLIAMS: Yeah, I'll
16 just re-mark it, since we are going to be using
17 it.

18 MR. MILLER: I just was going to say
19 what it is, for the record.

20 HEARING OFFICER WILLIAMS: Okay.

21 MR. MILLER: What we have done is to
22 reproduce the table in the AFC on pages 3-91 and
23 92. The table laps over to the top of the next
24 page, so for ease of reference we simply
25 reproduced it on one piece of paper. And this is

1 a table that provides a comparative evaluation of
2 five water source alternatives for the Elk Hills
3 Power Project.

4 HEARING OFFICER WILLIAMS: Okay, and
5 that'll be next in order. I believe it's 35.

6 MR. MILLER: Okay.

7 (Thereupon, Exhibit 35 was marked
8 for identification.)

9 BY MR. MILLER:

10 Q So, Mr. Rowley, would you like to
11 proceed with the testimony?

12 A Yes. Perhaps first I should refer to
13 the State Water Policy, which is attached to Dr.
14 Fox's testimony.

15 In the section entitled Implementation,
16 in item 6, in part, the policy states that -- in
17 referring to the alternative studies with regard
18 to water supplies and so forth, these studies
19 should include comparisons of environmental impact
20 and economic and social benefits and costs in
21 conformance with the Warren-Alquist State Energy
22 Resources Conservation and Development Act, the
23 California Coastal Zone Plan, the California
24 Environmental Quality Act, and the National
25 Environmental Policy Act.

1 So actually, this policy, that is Policy
2 7558, does not establish a standard of its own for
3 performing the comparative analysis, but rather
4 refers to other existing standards, and those
5 standards are commonly used by this Commission in
6 alternatives analyses. And based on that, we
7 performed a qualitative comparative analysis as is
8 typically done in a CEQA or Warren-Alquist
9 analysis of alternatives.

10 The -- the table summarizes that
11 analysis with regard to water supply options. And
12 as I stated, there are five different alternatives
13 that were considered. The -- the matters that
14 were taken into account in the evaluation included
15 water availability and quality; the additions to
16 water source infrastructure, and that's both in
17 terms of cost as well as environmental impact.
18 The -- that would include any potential impacts of
19 pipelines that would need to be constructed on
20 biological and cultural resources.

21 We considered water treatment, again
22 both from a cost perspective as well as
23 environmental impacts. Likewise, for wastewater
24 treatment and byproduct sludge handling and
25 disposal. Also, we looked at the differences in

1 cooling tower drift emissions in a comparative and
2 qualitative way, and we looked at the overall
3 costs of both capital and O&M in a comparative
4 way.

5 And looking at the table, first of all,
6 water quality. There are pretty stark differences
7 in the water quality of the alternatives,
8 particularly the produced water in the first
9 column, the Tulare water in the second column, and
10 then the -- the three columns to the right.

11 The produced water is water that is --
12 comes out of the ground along with oil in Oxy's
13 oilfield operations. And that water is extremely
14 saline. It has a salinity of 20,000 to 40,000
15 parts per million. That -- that means that the
16 water is by weight two to four percent salt, so
17 it's a very substantial quantity impact. Compared
18 to sea water, it's more saline than sea water. In
19 fact, in addition to that, since it's been
20 intimately mixed with -- with crude oil, it also
21 contains oil as a result of that.

22 So one way that a layman could view the
23 produced water is it's -- it's somewhat more
24 saline than sea water, but includes other
25 constituents that makes it more difficult to

1 handle. We talked with Oxy about the availability
2 of this water. Oxy has uses and plans for that
3 water, and was not willing to make that water
4 available to us in any case.

5 So based on the fact that the water is
6 unusable and, in fact, not even sea water, which
7 is more benign than this produced water, not even
8 sea water is used, to my knowledge, anywhere for
9 cooling tower makeup. Keeping in mind that when
10 water is put into a cooling tower, much of it is
11 evaporated and, in fact, the majority, three-
12 quarters, say, is evaporated, and all of the --
13 the solids that were in the original water remain
14 in the unevaporated portions, so you can imagine
15 if you had a, say a glass of sea water and you
16 evaporated three-quarters of it, how crusty the
17 glass would look. This is similar, except worse.

18 And so based on the poor quality and the
19 -- the unavailability of the water, it was not
20 analyzed further.

21 The second column includes information
22 on Tulare Formation Groundwater. The water is
23 available. It does have a high TDS. It's not
24 nearly as saline as the produced water, but it's
25 still in the range of four to 6,000 parts per

1 million. So it's much saltier than typically
2 would be used for cooling tower makeup.

3 The Kern Water Bank Authority water, the
4 Buena Vista Water, and the West Kern Water are
5 similar in terms of quality. And they're
6 representative of water that is typically used for
7 cooling tower makeup on -- on power generation
8 projects.

9 And the -- the Tulare water, since it is
10 much more saline, would limit our ability to
11 concentrate the water. In other words, we would
12 not be able to evaporate as much without running
13 into stalactites and stalagmites and salt crystals
14 hanging off the cooling tower. So we would have
15 to limit the -- the cycles of concentration, which
16 means that we would have to limit the amount of
17 evaporation and, as a result, the makeup
18 requirements would be much greater, something on
19 the order of three times what would -- as compared
20 to the -- the proposed water. And so as a result,
21 instead of two wells in the case of Kern Water
22 Bank Authority or Buena Vista, the Tulare water
23 would require something like six wells.

24 The West Kern Water, since they already
25 have infrastructure in place that is sufficient to

1 supply the needs of the project, would require no
2 additional wells.

3 As far as other additions to
4 infrastructure, the Tulare water, other than the
5 pipelines that would be required to gather from
6 the well location, which is generally on the south
7 flank of Elk Hills, and pipe that water four miles
8 up the hill to the -- the power plant site, other
9 than that infrastructure there would be no public
10 infrastructure required. There would be
11 infrastructure required both in the case of Kern
12 Water Bank Authority and Buena Vista, in terms of
13 pipe -- pipes and pumps, and so forth, that they
14 would have to add.

15 Again, that's not the case for West
16 Kern, because that infrastructure is already in
17 place.

18 The pipelines would vary in length.
19 That is, the water supply pipelines would vary in
20 length as shown on the table; six miles for
21 Tulare, over 11 miles for Kern, 12 for Buena
22 Vista, and just under 10 miles for the proposed
23 water supply from West Kern.

24 In terms of how these pipelines would be
25 routed, the project with its proposed water supply

1 has the benefit of being able to route the water
2 supply pipeline along -- alongside existing
3 pipelines. So the -- the construction roads and
4 O&M roads that are in place for the existing
5 pipelines are available for the proposed pipeline.
6 That's not entirely the case with the Kern Water
7 Bank Authority, nor is it entirely the case for
8 Buena Vista, and so the pipelines are longer and
9 they would also blaze some new trails to some
10 extent.

11 The Tulare water, that would -- that
12 would follow a very similar route as our
13 wastewater pipeline, so that could be piped along
14 existing corridors.

15 The biological and cultural resource
16 impacts track the pipelines in terms of their
17 impacts. The main difference that we see is with
18 the Kern Water Bank Authority. That pipeline to
19 extend to West -- pardon me, to extend to Kern
20 Water Bank Authority would have to cross the
21 habitat conservation plan area, and so we rated
22 that as -- as a greater impact than for the
23 others.

24 As far as water treatment goes, the
25 Tulare water, in order to replace the hardness

1 salts with salts that are less likely to
2 precipitate out and form hard deposits on the
3 cooling tower, extensive softening would be
4 required. And so there would be equipment and
5 cost associated with that, as well as water
6 treatment chemicals. That's not the case for the
7 other water supplies.

8 The water treatment process would
9 generate, in the case of the Tulare water, large
10 quantities of sludge, and that would create a
11 disposal issue that does not -- does not exist for
12 the other water options.

13 As I stated earlier, the cycles of
14 concentration would be much less for the Tulare
15 water because of its high salinity. And the
16 result of that is a wastewater total dissolved
17 solids that is an order of magnitude greater than
18 as proposed.

19 The Tulare water, as I stated, is in the
20 order of four to 6,000 TDS. That's also the
21 formation in which we propose to inject our
22 wastewater. And so when we start off with water
23 from West Kern Water District and cycle the
24 concentrations up, we end up with water that's
25 something like 1200 milligrams per liter. And so

1 we're taking water with a salinity of 1200 and
2 putting it into a formation that has a salinity of
3 four to 6,000, so there's no issue of degrading
4 the quality of the receiving water. The water
5 that we're putting in is of higher quality than
6 the water that's -- that's receiving it in the
7 groundwater.

8 Unfortunately, that's not the case if we
9 use the Tulare water for makeup to the cooling
10 tower. By definition, when we take the water out
11 of the ground, or if we were to take the water out
12 of the ground, that is Tulare water, and evaporate
13 a part of it, by definition the resulting
14 wastewater will be much more saline than what we
15 took out of the ground, and then we would be
16 endeavoring to put it back into the ground into
17 the same water -- in the same formation from which
18 we took it. And that -- that would have a
19 tendency to degrade the -- the receiving water.

20 So as a result, we see a potential
21 impact on groundwater quality in the case of the
22 Tulare water. That's not the case with the
23 others. In fact, there is a potential slight
24 improvement.

25 The number of disposal wells would be

1 greater for the Tulare water because, again, the
2 volumes of both makeup water and wastewater are --
3 are larger. Because the cooling tower would be
4 operating at higher parts per million, or higher
5 milligrams per liter of salt, the cooling tower
6 drift emissions are directly proportional to that.
7 So the drift emissions would be much higher for
8 the Tulare case.

9 The capital and O&M costs associated
10 with the Tulare water, we would characterize that
11 as high. And, in fact, when you consider all of
12 the cost issues surrounding use of the Tulare
13 water, both in terms of the number of wells, the
14 -- the volume of the water, the extensive water
15 treatment equipment that would be required, all of
16 these things would serve to greatly increase the
17 capital and O&M costs.

18 And from our perspective, in a
19 competitive environment we would -- we would
20 certainly rate those economics to be unsound,
21 especially in comparison with our competitors in
22 the California zone, say six miles to the west of
23 us, a competitor that doesn't have this sort of
24 cost burden. And so based on that, we would
25 certainly characterize the costs, or the economics

1 of such costs to be unsound.

2 That's not the case with the other three
3 alternatives. The costs are slightly higher for
4 Kern Water Bank Authority and Buena Vista than for
5 the proposed West Kern Water because of the -- the
6 additional infrastructure that would be required
7 within the water districts' boundary, and the
8 presumption is that the project would have to
9 cover those costs.

10 So that summarizes the -- the various
11 water alternatives, and based on this analysis we
12 found that the West kern Water District had the
13 least impact; that the other alternatives had
14 greater environmental impact of varying extents;
15 and that the West Kern Water provided sound
16 economics.

17 In addition to the analysis of the water
18 alternatives, we also looked at dry cooling versus
19 wet cooling. That's found on -- in Section 31146
20 of the AFC, heat rejection alternatives.

21 As background, I need to speak briefly
22 about the -- the climate in the area of the
23 project. The climate's characterized by --
24 especially during the summer, during the time when
25 the project needs to be operating in the most

1 competitive, when the most power is produced, the
2 climate is characterized by high dry bulb
3 temperature, and low wet bulb temperature.

4 What that means is that the temperature
5 that you normally associate with how hot the day
6 is, and you say it's 90 degrees today, a hot day,
7 that's the dry bulb temperature. The wet bulb
8 temperature is what you feel when you -- when
9 somebody throws a water balloon at you. You feel
10 a lot cooler on a hot day when you're wet, because
11 the water is evaporating and, in fact, you are
12 cooler. The temperature is much lower in a wet
13 situation than it is in a dry situation.

14 PRESIDING MEMBER MOORE: You're simply
15 describing the circumstances surrounding the use
16 of a -- psychrometer, actually.

17 THE WITNESS: Yes, precisely.

18 PRESIDING MEMBER MOORE: Relative
19 humidity. Okay.

20 THE WITNESS: Right. So the -- when you
21 look at the performance of a dry -- any kind of a
22 dry cooling system as compared to a wet cooling
23 system, the performance of the dry cooling system
24 is directly tied to the dry bulb temperature,
25 which is high. The performance of a wet cooling

1 system is tied conversely to the -- the wet bulb
2 temperature.

3 The -- how this affects the performance
4 of the power plant is that the -- the exhaust of
5 the steam turbine can only be cooled as cool as
6 the medium with which you're cooling it. If
7 you're cooling it with air, that is dry bulb
8 temperature, that -- that cooling is going to be
9 at higher temperature than if you're cooling with
10 water.

11 That translates directly into higher
12 pressure on the outlet of the steam turbine. And
13 higher pressure at high temperature translates
14 into less power. For example, CURE, in Ms. Fox's
15 testimony, talks about a back pressure of 6.2
16 inches of mercury as a typical back pressure for a
17 -- a dry cooling system, and that's probably not
18 -- not a bad estimate. And you compare 6.2 inches
19 of mercury to the proposed 2.5 inches of mercury,
20 last night, late at night, I did some calculations
21 and estimated that's roughly 16 megawatts.

22 So the power plant would be consuming
23 exactly the same amount of fuel, and the gas
24 turbines would still be putting out their power
25 unaffected, but the steam turbine output would be

1 reduced by something like 16 megawatts. So that's
2 both an output and an efficiency hit.

3 In addition to that, a -- a air cooled
4 condenser, which is the piece of equipment that
5 you use for dry cooling, the air cooled condenser
6 uses very large fans and a large number of fans
7 with very large motors. The power it would take
8 to run a air cooled condenser in the summertime is
9 something like four or five additional megawatts
10 for a 500 megawatt plant. So you're looking at 16
11 megawatts of direct steam turbine output loss,
12 plus an additional four or five megawatts of
13 additional auxiliary load, so you're looking at
14 something like 21 megawatts of output loss. It's
15 a -- it's a very substantial hit.

16 So in terms of use of resources, the
17 plant efficiency goes down, and so overall, the --
18 the fuel consumption for a given amount of power
19 goes up. And the cost implication of -- from a
20 capital perspective for the air cooler condenser
21 is -- it's much more expensive than water cooled.

22 Ms. Fox made an attempt at
23 characterizing that cost difference. I think it's
24 grossly underestimated. In the past, when we've
25 looked at the option of air cooled condenser,

1 we've seen capital cost differences that are on
2 the order of \$15 million.

3 So when you look at the -- again, the
4 economics in a competitive environment, and when
5 we look -- compare it against the standard that's
6 in the State Water Policy of whether the economics
7 are sound or unsound, when we have competitors,
8 again say one six miles away, that does not carry
9 this capital cost burden and is not losing this 16
10 megawatts plus the additional four or five
11 megawatts of auxiliary load, I can't characterize
12 the economics of this as anything other than
13 unsound. I'm not sure how we could compete head
14 to head with -- with our hand tied behind our back
15 in such a manner.

16 That concludes my summary of -- of our
17 analysis of the air cooled condenser dry cooling
18 option, as well as the -- the water supply
19 options.

20 PRESIDING MEMBER MOORE: Fine. Let me
21 just ask one quick question before Mr. Taylor
22 Miller brings on the --

23 MR. MILLER: I have a few follow-up
24 direct questions.

25 PRESIDING MEMBER MOORE: Okay. Let me

1 just make sure I understood you right.

2 The cost differential that you're
3 estimate is somewhere in the neighborhood of \$15
4 million for wet versus dry?

5 THE WITNESS: \$15 million for the
6 cooling part of the system. There would be
7 additional --

8 PRESIDING MEMBER MOORE: Absent the --
9 absent the efficiency losses that translate into
10 costs, as well.

11 THE WITNESS: Yes. Plus we still have
12 some water requirements at the plant site. So if
13 we were to use, for example, Tulare water, as --
14 as suggested by CURE, for the water uses that are
15 still there, for example, the gas turbines have
16 evaporative coolers, you still need water for
17 that. The boiler has makeup water requirements,
18 and so forth. Those water requirements call for
19 very high quality characteristics, and so there
20 would be very extensive water treatment equipment
21 required in order to provide that using saline,
22 brackish, four to 6,000 TDS water as a makeup.
23 And so that \$15 million would go up accordingly.

24 PRESIDING MEMBER MOORE: Good. Thank
25 you.

1 Mr. Miller.

2 MR. MILLER: Thank you.

3 BY MR. MILLER:

4 Q Just a couple of additional questions,
5 please. Could you comment upon the competitive
6 disadvantage which you have already, with local --
7 the area of power plants such as the La Paloma
8 project, as contrasted, for example, to projects
9 in other areas of the state such as, for example,
10 the Sutter Power Project?

11 A Well, the proposed project is in the
12 mid-California zone. And the Sutter project, for
13 example, is in the northern California zone. So
14 when you're in the mid-California zone, what that
15 means is that you are not in the same zone where
16 most of the load is. You're neither in northern
17 California nor are you located in southern
18 California, so you are subject to potential
19 transmission congestion no matter whether you go
20 north or south. That's a handicap as compared to
21 a project that's located in the same zone where
22 the load is. For example, Sutter.

23 The other aspects, and I'm not familiar
24 with the Sutter project's economics -- in fact,
25 all of these projects that are proposed as

1 merchant facilities have very closely guarded
2 economics, it's a very competitive situation, so
3 I'm not familiar with their economics and I'm sure
4 that they would be loath to share those numbers
5 with me -- but one possibility when you're in the
6 northern California zone near the load is that you
7 can also obtain what's called reliability must run
8 revenues, where that -- that is not available to
9 the proposed project, the Elk Hills project.

10 HEARING OFFICER WILLIAMS: What are
11 those? Could you define what you just said about
12 availability of an option in northern California?

13 THE WITNESS: Well, when a power plant
14 is located near the load -- let me back up. Load
15 requires certain characteristics of the power
16 system in order to have that load served reliably.
17 The -- for example, in order to maintain adequate
18 voltage in the area of load you need generation
19 fairly close to that load so that the lights don't
20 -- don't dim. That's a physical characteristic,
21 and that can only be satisfied when the power
22 plant is located near the load and the California
23 system -- and the California Independent System
24 Operator is ready, willing and able to pay for
25 that service. We -- we are not able to provide

1 that service because of our physical location;
2 therefore, those revenues are not available to us.

3 MR. MILLER: And so --

4 COMMISSIONER PERNELL: One question.

5 MR. MILLER: Sorry.

6 COMMISSIONER PERNELL: When you mention
7 zones, are you talking about climatic zones, or
8 electrical zones?

9 THE WITNESS: They are electrical zones
10 that have been set up for the purpose of buying
11 and selling power within California. California
12 has been divided into three zones, northern, mid,
13 and southern. The boundaries between those zones
14 are the result of limited amounts of electric
15 transmission connecting between the zones.
16 There's a limited ability to transfer power across
17 those boundaries.

18 So that what the result is is that the
19 prices, the market clearing prices in those zones
20 are potentially different from each other. And
21 typically, the price is going to be lower in the
22 zone where the -- where the generator -- where
23 generation exceeds load. And where load exceeds
24 generation, the price will be higher. The mid-
25 California zone is an area where there's

1 relatively little load, therefore you would expect
2 the price to be lower.

3 BY MR. MILLER:

4 Q And so that would mean that for purposes
5 of a comparative analysis from a competitive point
6 of view, the more appropriate comparison would be
7 with a generation source that is in the same zone
8 as the plant that you're investigating --

9 A Not only the same zone, but a project
10 that has a similar configuration. Another
11 combined cycle. In other words I wouldn't compare
12 necessarily our project against a cogeneration
13 project, but where you have one combined cycle
14 that's a brand-new, and another combined cycle
15 that's a brand-new, that renders a good comparison
16 on economics.

17 Q And therefore, a more appropriate
18 comparison in this case would be to the La Paloma
19 project rather than to the Sutter project?

20 A Absolutely. In fact, the only
21 substantial difference between the Elk Hills
22 project and the La Paloma project with regard to
23 these issues is that the La Paloma project is
24 twice the size of the Elk Hills project, and
25 therefore its water consumption and so forth is

1 roughly double.

2 Q Thank you. Have you reviewed, in the
3 time available, testimony submitted by Dr. Fox on
4 March -- it's dated March 6th. I believe it was
5 filed on March 7th.

6 MS. POOLE: It was faxed and docketed on
7 March 6th.

8 MR. MILLER: Okay. I received it on
9 March 7th.

10 BY MR. MILLER:

11 Q In any event, have you reviewed it?

12 A I have reviewed it, into -- late into
13 the night. Last night.

14 Q Could you provide some -- whatever your
15 comments are at this point on the testimony,
16 please?

17 A Sure, I'd be glad to do that. In fact,
18 maybe I could just go page by page through the
19 testimony.

20 First of all, on page 1, in the section
21 entitled Introduction. In the third paragraph,
22 this kind of gets to the nut of it. The -- Ms.
23 Fox makes a statement in the last sentence that
24 Staff -- neither Staff nor the Applicant has
25 provided sufficient information for the Commission

1 to make this determination as it must. That's
2 with regard to the issues of environmental
3 undesirability or the economic soundness of water
4 supply alternatives.

5 And certainly we -- we disagree with Ms.
6 Fox in that regard, and I'll go into some detail
7 on that. We -- we believe that our analysis,
8 especially combined with Staff's evaluation, does
9 satisfy the State Water Policy. And it's the sort
10 of analysis that's typically been done on other
11 projects.

12 Going to page 2 of Ms. Fox's testimony.
13 You know, I'm always curious about excerpts from
14 documents, particularly when I see fragments of
15 sentences and ellipses and so forth. And so I
16 took a look at the excerpts from the State Water
17 Policy, it's Policy 7558, and to take a look at
18 what was selected and what was left out.

19 In the -- the first paragraph, I think
20 that this excerpt is very correct in pointing out
21 that the purpose of the policy is to provide
22 consistent statewide water quality principles and
23 guidance. And the second excerpt on page 2, where
24 the lead-in sentence is, in particular, the policy
25 recognizes that there is a limited supply of

1 inland water resources in California, and then
2 there are some ellipses there. There's something
3 left out there.

4 If you go back and look at the policy,
5 on page 4 of the policy, in fact maybe I should
6 just read all of what is left out. Basis -- in
7 fact, I'll read it so we have some continuity.
8 There is a limited supply of inland water resource
9 -- of inland water resources in California. And
10 this is the part that's left out. Based on
11 planning conducted by the state board -- and keep
12 in mind this is 1975 -- based on planning
13 conducted by the state board has shown that there
14 is no available water for new allocations in some
15 basins. Projected future water demands, when
16 compared to existing developed water supplies,
17 indicate that general fresh water shortages will
18 occur in many areas of the state prior to the year
19 2000.

20 So the board, as -- that is the State
21 Water Board, is looking into the future, as it
22 should, and is making a prediction as to what may
23 happen with regard to water resources, and is
24 stating that their view in 1975 is that general
25 fresh water shortages will occur in many areas of

1 the state prior to the year 2000. Of course, now
2 it is the year 2000, and we -- we are not
3 experiencing general fresh water shortages.

4 So the context of this excerpt is that,
5 first of all, of course, this is 1975 policy, and
6 in 1975 there is a view that -- that, well, a fact
7 that there was no available water for new
8 allocations; that is, allocations made by the
9 State Water Board to receiving agencies, and that
10 they were expecting these general shortages in
11 many areas of the state prior to today. That
12 becomes important context later.

13 And the next except, on page 2, the
14 lead-in sentence, therefore, the State Water
15 Resources Control Board has concluded that the --
16 there are words missing in the beginning of the
17 sentence, and there are words missing in the
18 middle.

19 The words that are missing at the
20 beginning, where the Board has jurisdiction, the
21 use of fresh inland waters for power plant cooling
22 will be approved by the Board only when it is
23 demonstrated, and so forth. So what's missing
24 here from this paragraph is the fact that this
25 item, which is found on page 5 of the policy, it's

1 Principle Number 2, the Board is talking about
2 what they will do in cases where they have
3 jurisdiction. Now, when does the Board have
4 jurisdiction? Certainly in cases where there's a
5 new allocation. When there's a new allocation of
6 water from the State Board, then the Board has
7 jurisdiction and it's going to apply this -- this
8 judgment in its decisions.

9 That's not the case in this project.
10 There is no new allocation of water on this
11 project. This project does not come before the
12 State Board for approval because of that. In a
13 different circumstance, it's possible that to
14 serve water to a power plant that a new allocation
15 would be required. But as Brian Patrick
16 testified, the West Kern Water District has
17 adequate supplies with its existing allocations,
18 and therefore no new allocation is required.

19 Now, that doesn't mean that we wouldn't
20 use this Principle Number 2 as guidance, and as a
21 principle. And as stated at the very beginning of
22 the policy, the purpose of this policy is to
23 provide consistent statewide water quality
24 principles and guidance. So we -- we accept
25 Principle Number 2 as guidance, and we -- we

1 believe that it's justified and worthwhile to do
2 an analysis to determine environmental
3 undesirability or economic unsoundness, and we did
4 that analysis. And we did it in accordance with
5 the -- the implementation guidelines that are
6 contained in the policy; that is, the
7 implementation guidelines referenced to CEQA and
8 to the Warren-Alquist Act for the standard in
9 evaluating alternatives.

10 Back on page 2 of Dr. Fox's testimony.
11 The paragraph just under the one that I just
12 cited, it reads, this demonstration must include,
13 quote, an analysis of the cost and water use
14 associated with the use of alternative cooling
15 facilities employing dry or wet/dry modes of
16 operation.

17 The policy actually does not state that.
18 What the policy states is -- and we agree with the
19 policy's statement -- this is found on page 6 of
20 the policy. Item 6, under the heading of
21 Principles. The studies associated with power
22 plants should include an analysis, and so forth.
23 So whereas CURE both in their written testimony
24 and in their oral arguments this morning
25 repeatedly said that the policy requires, and that

1 it must, and that it shall, the policy actually
2 doesn't use those words. And the words that are
3 used is that this demonstration should include.

4 And we agree. And I think that that
5 word, "should", is indicative of the policy's --
6 the policy's purported purpose of being a
7 guideline and -- and a principle.

8 On page 3 of Ms. Fox's testimony, under
9 Roman numeral 3, the lead-in sentence there states
10 that the Commission can only approve the use of
11 fresh inland waters for cooling the Elk Hills
12 Power Plant, quote, if other sources or other
13 methods of cooling would be environmentally
14 undesirable or economically unsound.

15 So now Dr. Fox has taken the -- the
16 statement out of the State Water Board policy,
17 removed the word "Board" and inserted the word
18 "Commission". And removed other aspects of the
19 wording. In fact, even -- even the words
20 contained within the quote marks cannot be found
21 in the policy. The words have been altered there,
22 to some extent.

23 In the -- the last paragraph on page 3
24 of Ms. Fox's testimony, in the middle of the
25 paragraph she states that the Applicant, in its

1 discussion of this option of this groundwater use,
2 fails to identify any significant environmental
3 impacts. That is speaking of the use of Tulare
4 water. In fact, we did an analysis that
5 identified cases on a comparative basis where
6 there would be great environmental impacts. The
7 proposed project has identified significant -- or
8 has -- has determined whether there would be
9 significant environmental impacts for the project
10 as proposed, and we found that there are no
11 significant impacts.

12 When you look at the standard in CEQA
13 and Warren-Alquist, when you're looking at
14 alternatives, it's not required that we make a
15 determination of significant environmental impacts
16 on alternatives. It's sufficient to do a
17 comparative analysis.

18 On page 4 of Ms. Fox's testimony, in the
19 second paragraph she again states that -- she
20 again states that the policy requires an analysis
21 of the cost and water use associated with the use
22 of alternative cooling facilities employed in dry
23 or wet/dry modes of operation. Again, the policy
24 doesn't state that. The policy says should, it
25 does not say requires.

1 And again, we don't argue with that.

2 We, in fact, agree. But it is should, and we have
3 done that analysis.

4 The -- under Item B on page 4, again,
5 Dr. Fox asserts that we have not done the cost
6 analysis required by the state's policy, and I've
7 covered that in detail.

8 On the bottom of page -- near the bottom
9 of that same paragraph, again on page 4, under
10 Item B, the second paragraph. The -- the
11 testimony from Ms. Fox asserts that the Applicant
12 refused to answer Data Request 20 from CURE.

13 The -- in fact, we objected to the
14 question. We did not make a -- a groundless
15 refusal to answer, as -- as this implies, but
16 rather we filed on August the 24th, 1999, an
17 extensive document that explained why we were not
18 in a position to answer certain of CURE's data
19 requests.

20 And with regard to Data Request Number
21 20, this again is a document dated October -- or,
22 pardon me, August 24th, 1999, and I'm looking on
23 page 19. It's a document that was written by Elk
24 Hills Power, and filed on all parties. Applicant
25 has discussed the air cooled condenser option in

1 the AFC at page 3-90. The above stated requests
2 ask for confidential and privileged information of
3 Elk Hills Power. Currently, numerous power plant
4 developers propose projects within Kern County, as
5 well as elsewhere inside and outside of California
6 that will compete in the California market. The
7 requested cost analysis information is a trade
8 secret of EHPP protected by California Government
9 Code Section 6254K, and California Evidence Code
10 Section 1060.

11 Further detail on the economics of the
12 air cooled condenser is not necessary to make any
13 decision on the AFC, nor was it requested by CURE
14 during the La Paloma proceeding. The AFC did not
15 find any significant impacts regarding water
16 resources, and therefore a detailed study of
17 numerous cooling -- alternative cooling
18 technologies involving the release of confidential
19 and privileged competitive cost information is not
20 warranted.

21 We also note that the Presiding Member's
22 Proposed Decision for the La Paloma Generating
23 Project concluded that the use of wet cooling
24 would not cause or contribute to any significant
25 environmental impact, and that dry cooling was not

1 warranted. And it goes on.

2 But the bottom line is that on August
3 the 24th of last year, we responded to CURE on
4 this issue, and CURE never gave us any indication
5 that our response was unsatisfactory until day
6 before yesterday.

7 (Inaudible asides.)

8 THE WITNESS: I'll go back to Dr. Fox's
9 testimony. Likewise, on page -- top of page 5 of
10 her testimony, she says the Applicant refused to
11 answer the data request. Actually, we objected to
12 the question. We provided basis for that
13 objection --

14 PRESIDING MEMBER MOORE: I think you've
15 covered that.

16 THE WITNESS: With regard to other
17 options, it's basically produced water. In the
18 third paragraph, under Item C, the testimony
19 states that in fact, blending and pre-treatment
20 are widely used by numerous oil producers to
21 upgrade produced water for use in oilfield steam
22 generators and cogeneration plants.

23 Produced water, for example, is treated
24 in Midway-Sunset Oilfield as feed water using oil
25 water separation and filtration and ion exchange.

1 Although the TDS of this produced water is lower
2 than -- than Elk Hills produced water, high TDS --
3 higher TDS waters have been successfully used in
4 oil production by blending with low TDS water, and
5 so forth.

6 We are not using this water for oil
7 production. This is not a cogeneration project.
8 The water that is being supplied -- that would be
9 supplied to the Elk Hills project is being used
10 for cooling tower makeup, not for enhanced oil
11 recovery operations. It's a completely different
12 application. So that -- that paragraph doesn't
13 even apply to the Elk Hills project.

14 There's another reference to Data
15 Request Number 82, and I've covered the fact that
16 there's a document that addresses that.

17 In the -- at the very bottom of page 5,
18 the testimony from CURE states that other
19 statistics indicate that three million gallons per
20 day of produced water are currently disposed of in
21 the Elk Hills oilfield, which is nearly enough to
22 supply 100 percent of the project's water demand
23 of 3.1 million gallons per day, close quote.

24 The produced water that she's referring
25 to is this water that has a total dissolved solids

1 of 20,000 to 40,000 parts per million, milligrams
2 per liter. It's the water that's more saline than
3 sea water and also contains oil. There's no way
4 that you can equate that -- that sort of water,
5 which is unusable for anything, other than perhaps
6 injection into an oilfield. There's no way you
7 can equate a volume of that sort of water with the
8 volume of water that would be of a quality that is
9 suitable for a cooling tower makeup.

10 In the -- under Roman numeral 4, on page
11 6, in the middle of the paragraph, there's
12 apparently a misunderstanding of how a power plant
13 works. It states, the Elk Hills project has
14 proposed to use wet cooling to remove this heat.
15 In this process, steam is condensed in a surface
16 condenser, and the resulting hot water is sprayed
17 over a packing in a cooling tower.

18 That's certainly not the case. The --
19 the steam that's condensed in the surface
20 condenser is pumped back to the boiler, and is re-
21 used in a continuous cycle. The water that --
22 that is sprayed in the cooling tower is the
23 circulating water, and that's the water that
24 really I've been talking about throughout my
25 testimony today.

1 Let's skip now to Table 1 in the CURE
2 testimony. I've alluded to the substantial
3 differences in the capital costs associated with
4 wet cooling versus an air cooled condenser. And
5 the realistic differences are not reflected in
6 this table.

7 I would like to focus in on a couple of
8 things. One is about two-thirds of the way down
9 the table, in the right-hand column, there's a
10 cryptic note there, CRF equals .16, Note 4.

11 CRF is apparently a fixed charge rate,
12 and it's a number that you use to annualize a one-
13 time capital cost in an economic analysis. And
14 Note 4 states, the capital recovery factor assumes
15 65/35 debt equity, nine percent interest for 15
16 years, 20 year 150 percent declining balance
17 depreciation for a 14 percent after tax internal
18 rate of return.

19 Well, in order for me to do this kind of
20 an analysis, I would have to divulge that. I
21 would have to tell this Commission, the
22 Intervenors, and all my competitors what my hurdle
23 rate is on internal rate of return. How can I do
24 that in a competitive environment? And, in fact,
25 the State Water Policy fortunately does not

1 require that I do that, and so we didn't do that.
2 We objected when CURE asked us to provide such
3 information --

4 PRESIDING MEMBER MOORE: You're simply
5 telling us that you're not doing it, and you're
6 not going to criticize that number because in
7 order to criticize the number you'd have to reveal
8 what you don't want to reveal. So your comment is
9 we're not supplying that number, and here's the
10 reason why.

11 THE WITNESS: Exactly.

12 PRESIDING MEMBER MOORE: Thank you.

13 THE WITNESS: If we were to -- if we
14 were to do an analysis --

15 PRESIDING MEMBER MOORE: Right. You
16 made your point.

17 THE WITNESS: Okay. Great.

18 One other thing that I'd like to point
19 out on the table is that the reduced energy input
20 line, five megawatts per turbine, if you look at
21 Note 6 it talks about two turbines, five megawatts
22 per turbine. I'm not sure exactly what that
23 means, but there's only one steam turbine that's
24 affected. The power output effect is much greater
25 than the five megawatts that's alluded to here.

1 If -- I just penciled in all the -- all the
2 changes that I described throughout my testimony,
3 and came up with a new bottom line difference of
4 incremental cost instead of .52, would be more
5 like 2.4.

6 PRESIDING MEMBER MOORE: That's using
7 the numbers that were supplied in the table, not
8 using your own numbers.

9 THE WITNESS: Using the numbers supplied
10 in the table, correcting difference in capital
11 cost, which is, you know, readily available public
12 information. I'm not concerned about
13 confidentiality there. Just an annualizing of
14 that. I use CURE's annualizing of that number.
15 And then adding in the true cost of reduced energy
16 output, the .52 comes up to about 2.4.

17 To give you an idea of how big 2.4 is,
18 the dispatch cost for our project, given current
19 prices of natural gas, is probably around \$17 per
20 megawatt hour. So you're looking at an additional
21 two dollars and seventeen, and it's a 12 percent
22 increase. I mean, how -- how could we compete
23 with our neighbor six miles away with -- with that
24 kind of a burden. It certainly, in my view, in my
25 professional view, is indicative of unsound

1 economics.

2 And that concludes my commentary on the
3 CURE testimony.

4 PRESIDING MEMBER MOORE: Mr. Miller, do
5 you have --

6 MR. MILLER: I have -- I recognize this
7 has taken some time. I will ask one direct
8 question.

9 BY MR. MILLER:

10 Q And that is, just to reiterate, does the
11 inland -- the State Water Board's inland water
12 cooling -- power plant cooling policy define the
13 term "analysis" when it refers to an analysis of
14 cost?

15 A The only definition that it lends is to
16 refer to CEQA and Warren-Alquist, and so forth.
17 It never uses the word quantitative anywhere in
18 the policy.

19 MR. MILLER: Thank you. That concludes
20 Mr. Rowley's testimony. Would you like us to --

21 PRESIDING MEMBER MOORE: And you have
22 two more witnesses, is that --

23 MR. MILLER: We have two more witnesses.
24 I would say direct testimony maybe will take 10,
25 15 minutes.

1 PRESIDING MEMBER MOORE: All right.

2 Well, I'm going to put them over until after

3 lunch, then. Let's take -- it's 12:00 o'clock

4 straight up right now. Let's take until 1:00

5 o'clock. We'll meet back here and conclude your

6 witnesses.

7 (Thereupon, the luncheon recess was

8 taken.)

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1 AFTERNOON SESSION

2 HEARING OFFICER WILLIAMS: You have two
3 additional witnesses that you'd like to call.

4 MR. MILLER: Yes.

5 PRESIDING MEMBER MOORE: Okay, we'll
6 proceed.

7 HEARING OFFICER WILLIAMS: Let the
8 record reflect that all parties who were present
9 at the recess are present in the hearing room, and
10 that we are now proceeding with Applicant's
11 presentation on Soil and Water Resources.

12 MR. MILLER: Thank you. I'd like to now
13 ask our next witness to introduce herself. Would
14 you please state your name and occupation for the
15 record?

16 HEARING OFFICER WILLIAMS: Before you do
17 that, would you swear the witness --

18 MR. MILLER: Oh, I'm sorry. Here we go
19 again.

20 HEARING OFFICER WILLIAMS: -- please.

21 MR. MILLER: Please be sworn.

22 (Thereupon, Donna M. Thompson and Barry
23 Hanson were, by the reporter, sworn to
24 tell the truth, the whole truth, and
25 nothing but the truth.)

1 TESTIMONY OF
2 DONNA M. THOMPSON

3 called as a witness on behalf of the Applicant,
4 being first duly sworn, was examined and testified
5 as follows:

6 DIRECT EXAMINATION

7 BY MR. MILLER:

8 Q Could you please state your name and
9 occupation for the record?

10 A My name is Donna M. Thompson. My
11 occupation is geologist. I'm the President of San
12 Joaquin Energy Consultants.

13 Q And what is the nature of your business?

14 A My business is a consulting business. I
15 have experience in petroleum geology,
16 hydrogeology, environmental assessment, economic
17 evaluations, and geophysics.

18 Q And your address is included in your
19 pre-filed testimony. Could you please describe
20 your educational background and your experience
21 related to your testimony?

22 A I have a Bachelor of Science degree in
23 Geology from Stanford University. I have worked
24 on several water injection projects that have been
25 permitted, specifically the geologic and

1 hydrogeologic investigations for those projects.

2 Q And are you licensed, do you hold
3 professional license?

4 A Yes. I'm licensed by the State of
5 California as a geologist. My license number is
6 5347. I am also licensed by the State of
7 California to practice hydrogeology. That license
8 number is HG 241.

9 Q Thank you. Could you please explain the
10 purpose of your testimony?

11 A My testimony will deal with the
12 potential effects on groundwater resources from
13 the two proposed Class 1 injection wells. There
14 were three main elements that we investigated for
15 purposes of the permit application. That -- those
16 three elements are the injection zone, the
17 confining zone, and the injectate, or the fluid
18 that is injected in the wells.

19 Q Excuse me. Before you get to that, may
20 I ask you --

21 A Oh, I'm sorry.

22 Q -- a couple of other questions.

23 A Certainly.

24 Q I'd like to get on the record what you
25 are sponsoring, your exhibits?

1 A I'm sponsoring Exhibit 1, Appendix P,
2 titled Information Needs for Class 5 Injection
3 Wells, Elk Hills Power Plant. And along with Gary
4 Cronk, I'm sponsoring AFC Section 5.1.3, Waste
5 Management; AFC Section 5.4.1.2, the Groundwater
6 Resources; AFC Section 5.4.2.3, Elk Hills Oil and
7 Gas Field Groundwater Impacts. Specifically,
8 those portions of the sections that deal with the
9 groundwater issues related to the proposed
10 disposal wells.

11 Q Thank you. And are you sponsoring any
12 portions of any other exhibits?

13 A Yes. I'm sponsoring the Class 1
14 Injection Well permit that was submitted to the
15 Environmental Protection Agency. The title of
16 that document is Information Needs for Class 5
17 Injection Wells, Elk Hills Power Plant, dated
18 September 21st, 1999.

19 I'm also sponsoring Exhibit 2, Response
20 to CEC Staff Data Request to Items 56 through 59.

21 Q And -- sorry.

22 A One more sponsoring. Attachment A,
23 Testimony of Donna M. Thompson regarding the
24 proposed Class 1 injection wells in support of the
25 Application for Certification of the Elk Hills

1 Power Plant.

2 Q Thank you.

3 MR. MILLER: Mr. Hearing Officer, with
4 regard to one of the items she just described,
5 we're going to have to have that marked.

6 HEARING OFFICER WILLIAMS: Which one is
7 that?

8 MR. MILLER: That would be the
9 Information Needs for Class 5 Injection Wells, Elk
10 Hills Power Plant, dated September 21, 1999.

11 HEARING OFFICER WILLIAMS: Okay. You
12 had indicated to me during the recess that there
13 was another exhibit, too, that --

14 MR. MILLER: That's correct, although
15 this witness would not be sponsoring that.

16 HEARING OFFICER WILLIAMS: Well, for the
17 record, you had needed Mr. --

18 MR. MILLER: Mr. Patrick.

19 HEARING OFFICER WILLIAMS: -- Patrick to
20 introduce the Kern County Groundwater Management
21 Plan. And we had marked that as Exhibit 36, next
22 in order. Is there -- would there be any
23 objection to that, the Groundwater Plan coming in?

24 MS. WILLIS: None.

25 MS. POOLE: No objection.

1 HEARING OFFICER WILLIAMS: Okay. So
2 we'll admit that as Exhibit 36.

3 (Thereupon, Exhibit 36 was marked for
4 identification and was received in
5 evidence.)

6 MR. MILLER: Okay. So that would make,
7 then, the Injection Well Application 37?

8 HEARING OFFICER WILLIAMS: Thirty-seven.
9 That's been docketed?

10 MR. MILLER: Yes, it has.

11 (Thereupon, Exhibit 37 was marked
12 for identification.)

13 BY MR. MILLER:

14 Q Okay. Let's proceed, then.

15 Could you then summarize your testimony,
16 please?

17 A Yes. There's three main areas that we
18 evaluated for the proposed injection operation.
19 The first is the injection zone, second is the
20 confining zone, and the third is the injectate
21 itself.

22 The proposed injection zone would be
23 sands and gravels in the Tulare Formation. The
24 top of the injection zone is at about 600 feet.
25 The base is about 1800 feet. This is a gross

1 interval thickness of 1200 feet, of which 750 feet
2 are sands and gravels that have porosity and
3 permeability adequate to receive the injected
4 fluids.

5 The 750 feet of sands and gravels we
6 refer to as the net sand thickness. And that is
7 one of the main factors that we use in determining
8 the area of influence of the proposed wells. The
9 area of influence is basically how far radially
10 away from the wells that the waste front, once
11 injected, will flow.

12 The quality of the groundwater in the
13 proposed injection zone is relatively poor. The
14 total dissolved solids concentration of the
15 natural formation water ranges from about 4500
16 milligrams per liter to about 6100 milligrams per
17 liter.

18 In comparison, drinking water standards
19 as given in Title 22, California Code of
20 Regulations, are recommended to be one -- I'm
21 sorry, are recommended to be 500 milligrams per
22 liter, with the upper and short term limits of
23 total dissolved solids concentrations at 1,000 and
24 1500 milligrams per liter, respectively.

25 The groundwater is also relatively poor
26 in terms of chloride concentrations. The chloride

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1 concentration in the natural formation water is
2 typically more than a thousand milligrams per
3 liter. Drinking water standards, in contrast, are
4 250 milligrams per liter, with the upper and short
5 term limits at 500 and 600 milligrams per liter,
6 respectively.

7 Finally, in terms of boron
8 concentrations, typically the natural formation
9 water has more than four milligrams per liter, and
10 this exceeds even the uppermost limit for boron
11 tolerant plants, so the natural formation water is
12 relatively poor in quality within the proposed
13 injection zone.

14 In addition, the proposed injection zone
15 is part of the exempt Tulare Aquifer. This
16 aquifer was exempted by the California Division of
17 Oil, Gas and Geothermal Resources based upon
18 petroleum production in that zone within the Elk
19 Hills oil and gas field. The aquifer also was
20 exempted because it has a total dissolved solids
21 concentration that exceeds 3,000 milligrams per
22 liter. It does not currently serve as an
23 underground source of drinking water, and it also
24 is not reasonably expected to serve as one in the
25 future.

1 The second element, which is the
2 confining zone, is a clay layer that is within the
3 Tulare Formation that directly overlies the
4 injection zone. This clay, based on analysis of
5 subsurface well data, is about 80 feet thick.
6 Though it's -- it has good vertical thickness
7 identified from subsurface well data. It's also
8 areally extensive. It goes well beyond the area
9 of influence of the proposed injection wells.

10 In addition to the uppermost confining
11 layer, there is also another clay layer that we
12 refer to as the Ammicola clay that underlies the
13 injection zone. This clay is about 35 feet thick,
14 and is also laterally extensive based upon review
15 of subsurface well data.

16 Finally, the third element is the
17 injectate. The amount of injectate that will be
18 discharged into the proposed wells will be about
19 12,000 barrels per day, on the average. The peak
20 rate will be 15,000 barrels per day. The
21 injectate, as you've heard testimony before, will
22 average about 1200 milligrams per liter total
23 dissolved solids, so it will be substantially
24 fresher than the natural formation water.

25 I will defer any additional testimony on

1 the -- calculations to Barry Hanson, who did the
2 engineering aspects of the proposed injection
3 wells. And he will also talk about the well
4 design and construction and the various procedures
5 that are done daily and annually to ensure that
6 the well is mechanically sound, and that the
7 injectate will be going into the permitted zones.

8 So I'd like to summarize my testimony by
9 making five main points.

10 Number one is that the proposed
11 injection zone is exempted as an underground
12 source of drinking water. That the injectate has
13 a substantially lower total dissolved solids
14 content than the natural formation water. The
15 proposed injection zone will be bounded both above
16 it and below it by clay confining layers. And
17 that in addition to these natural barriers that
18 the clays provide, that there are three separate
19 elements as part of the well construction itself,
20 that will assure that the injectate goes into the
21 proposed zone and not elsewhere.

22 And, finally, that the construction and
23 operations of the proposed Elk Hills Power Plant
24 have little potential impact on groundwater
25 resources in this area.

1 Q Thank you. A couple of direct follow-up
2 questions.

3 We would like to inquire as to what kind
4 of field investigations you've made of the area in
5 the course of your work?

6 A I have spent the better parts of four
7 days out in the field, looking at the outcrops and
8 determining that there wasn't any additional
9 geologic impacts that would relate to the proposed
10 injection wells.

11 MR. MILLER: Thank you.

12 I'd like now to turn to Mr. Hanson. Oh,
13 excuse me. I -- one housekeeping matter I
14 neglected, I'm afraid.

15 BY MR. MILLER:

16 Q Ms. Thompson, to just conclude your
17 testimony, could you confirm that you have no
18 corrections to make to any of the portions of the
19 exhibits that you are sponsoring?

20 A I have no corrections.

21 Q And do you adopt the testimony included
22 in the exhibits that you're sponsoring and your
23 pre-filed testimony as your true and sworn
24 testimony in this proceeding?

25 A Yes, I do.

1 Q Based upon your best professional
2 opinion?

3 A Yes.

4 MR. MILLER: Thank you.

5 Now I'd like to turn to Mr. Hanson.

6 TESTIMONY OF

7 BARRY HANSON

8 called as a witness on behalf of the Applicant,
9 having been first duly sworn, was examined and
10 testified as follows:

11 DIRECT EXAMINATION

12 BY MR. MILLER:

13 Q Could you please state your name and
14 occupation for the record?

15 A My name is Barry Hanson, and I'm a
16 Petroleum Engineering Consultant.

17 Q And your business location?

18 A It's 809 Los Mochis Drive in
19 Bakersfield.

20 Q Could you also describe your educational
21 background and your occupational experience
22 related to your testimony?

23 A Yes, sir. I have a Bachelor of Science
24 degree in Chemical Engineering from New Mexico
25 State University. I have 20 years of experience

1 in petroleum engineering, including operation and
2 production of reservoir engineering. I've worked
3 rather extensively with design permitting and
4 operation of numerous water injection and disposal
5 projects in California, Texas, and New Mexico.

6 Q And --

7 A I think that covers it.

8 Q Okay, thank you. Could you explain the
9 purpose of your testimony?

10 A Yes. I'm here today to describe the
11 construction, design, operation, surveillance, and
12 engineering aspects of the proposed injection
13 wells, and I'll also be discussing the waste front
14 calculations and pressure front calculations
15 related to the area of influence.

16 Q Thank you. Are you sponsoring portions
17 of Exhibit 1, the Application for Certification?

18 A Yes, sir.

19 Q And what would that be?

20 A Let's see, that's Appendix P, titled
21 Information --

22 PRESIDING MEMBER MOORE: Why don't you
23 try turning that one off and let's see if --

24 THE WITNESS: Well, that's it. Want me
25 to try that again?

1 (Inaudible asides.)

2 BY MR. MILLER:

3 Q Go ahead.

4 A Okay. Actually, I'm sponsoring portions
5 of Exhibit 1, Appendix P, titled Information Needs
6 for Classified Injection Wells, Elk Hills Power
7 Plant. Along with Gary Cronk and Donna, I'm also
8 sponsoring AFC Section 5.13, Waste Management, in
9 particular those issues that deal with the
10 engineering aspects of the wastewater injection
11 wells.

12 Q And are you sponsoring any portions of
13 other exhibits?

14 A Yes. I'm sponsoring portions of the
15 Class 1 Injection Wells Permit Application to the
16 EPA, that's titled Information Needs for Class 5
17 Injection Wells, Elk Hills Power Plant. That was
18 dated September 21st of '99.

19 Q And that would be Exhibit 37, we just
20 marked.

21 Do you have any corrections to make to
22 any portions of the exhibits that you're
23 sponsoring?

24 A No.

25 Q Could you summarize your testimony,

1 please?

2 A Yes. Let's see, starting with the --
3 the area of influence for the injection wells.
4 Essentially, we have waste front calculations that
5 were contained in the original application, and
6 these calculations show a maximum waste front
7 radius of about 994 feet after 20 years of
8 continuous injection at 15,000 barrels of water
9 per day.

10 Now, since the nearest offset injectors
11 to the proposed injection zone are located about
12 3,000 feet north of the proposed injection wells,
13 we don't see any interaction or interference
14 between the proposed and existing injection wells
15 is likely to occur.

16 Of course, that -- well, all the other
17 stuff has been stated previously.

18 Q All right.

19 A I'll pass on that.

20 Q All right.

21 A Other --

22 Q I'm sorry, I was just going to --

23 A Go ahead.

24 Q If you're done with that, I was going to
25 ask you to talk about the design of the well.

1 A You bet.

2 Q If you could explain, and you might want
3 to refer to -- I know you submitted in your pre-
4 filed testimony a diagram.

5 A Yes.

6 Q Well, if anyone happens to have that
7 here, they can follow along.

8 A Yeah. Basically, the injection well
9 design, what we do with that is we incorporate
10 redundant containment barriers and surveillance
11 systems to ensure that the injectates are confined
12 to the permitted injection zone. Basically, what
13 we're using here is we have two natural and three
14 artificial containment barriers to ensure the flow
15 goes where it's supposed to go. You've already
16 had some discussion of the two clay barriers
17 there, so I'll kind of gloss over that and get
18 straight to the artificial barriers.

19 The first barrier you have is when the
20 well bore is drilled, a steel casing is run into
21 the well. And that's the first barriers to
22 contain them. In addition to that, that casing is
23 cemented in place and that cement does indeed
24 become the second barrier to containment. The
25 cement anchors the casing to the well bore, and

1 after that is -- the cement job is done, there are
2 cement logs run to ensure that the well is
3 completely cemented from the bottom to the top.

4 The third layer of containment would be
5 the injection tubing and packer that are run in
6 the well themselves. The packer packs off the
7 casing -- the packer and the tubing seal the
8 injectates and isolate the casing annulus. Also,
9 that annulus between the tubing and the casing is
10 filled with packer fluid that is treated to
11 inhibit corrosion of either the tubing string or
12 the casing string, and it's also treated to
13 eliminate any biological activity that may occur
14 within the packer fluid itself.

15 Beyond those three containment barriers
16 you're going to have pressure monitoring devices
17 on both the tubing and the casing. Now,
18 basically, each day the operator goes out there
19 and he inspects the surface injection lines, the
20 well heads, and the pressure monitoring devices.
21 And if there is any breach in any of the
22 containment barriers that will be so indicated by
23 a change in the pressure readings on the casing or
24 the tubing. If any such changes are observed,
25 appropriate actions would be taken.

1 Q Does this -- excuse me. Does this
2 conclude your testimony?

3 A Pretty much. You know, in conclusion,
4 I'll just state that construction and operation of
5 the injection wells have very little potential for
6 significant impacts to the groundwater resources
7 beneath the Elk Hills oilfield.

8 MR. MILLER: Thank you.

9 All right. We have --

10 PRESIDING MEMBER MOORE: Your witnesses
11 are all available for questioning?

12 MR. MILLER: Yes, they are. We have one
13 housekeeping matter, and that was simply the
14 sponsorship by Mr. Patrick of the Groundwater
15 Management Plan. I suppose we should get on the
16 record his --

17 PRESIDING MEMBER MOORE: You are
18 sponsoring that.

19 MR. MILLER: No, excuse me. That's one
20 of our previous witnesses.

21 PRESIDING MEMBER MOORE: I'm sorry.

22 MR. MILLER: It was just a little slip.

23 PRESIDING MEMBER MOORE: So noted.

24 Staff, questions of --

25 MS. WILLIS: No questions.

1 PRESIDING MEMBER MOORE: Ms. Poole?

2 MS. POOLE: Yes. Just one question for
3 these witnesses.

4 CROSS EXAMINATION

5 BY MS. POOLE:

6 Q I believe that you stated that the area
7 of influence of the injection well and the
8 injectate was calculated over 20 years?

9 A Yes, ma'am.

10 Q Is this plant proposed to operate for 30
11 years?

12 A Yes, it is.

13 Q Would that area of influence increase,
14 be -- be wider over a 30 year period than over a
15 20 year period?

16 A Oh, absolutely.

17 Q Do you know what that area of influence
18 would be?

19 A Yeah. As a matter of fact, that came up
20 yesterday, so I calculated it this morning. It
21 would be actually 1204 foot, as opposed to the 994
22 foot, for 30 years.

23 MS. POOLE: Thank you. That's all my
24 questions for you.

25 PRESIDING MEMBER MOORE: Questions of

1 the other witnesses?

2 MS. POOLE: Yes.

3 PRESIDING MEMBER MOORE: Can you name
4 who you'd like to question.

5 MS. POOLE: I have questions, I believe
6 for Mr. Rowley and for Mr. Patrick.

7 PRESIDING MEMBER MOORE: All right. If
8 they would rejoin us, we'd appreciate it. Let's
9 start with Mr. Rowley, since he is here.

10 MR. MILLER: Excuse me. We would -- we
11 need just one minute.

12 (Pause.)

13 MR. MILLER: We, in the previous
14 testimony that Mr. Rowley gave, he discussed
15 responses that the Elk Hills Power made in August
16 of 1999 to Data Requests submitted by CURE that
17 were referred to in Dr. Fox's testimony of March
18 6th. What we would like to do -- and he referred
19 to our response to those objections at that time.

20 What we didn't remember to do at the
21 time was to go ahead and for the record include
22 the exhibit as an exhibit, the response to those
23 objections that was made in August that Mr. Rowley
24 referred to in his testimony. So I'd like to mark
25 that -- I guess it would be Number 38.

1 MS. POOLE: I believe those are attached
2 to Dr. Fox's testimony.

3 MR. MILLER: The responses, but not the
4 reasons for our objection to the questions that
5 were referred to in -- responses.

6 MS. POOLE:: So what is it that you want
7 to --

8 MR. MILLER: Just our letter that
9 detailed what our objections were to those data
10 requests, dated August 24, 1999, which, of course,
11 was docketed.

12 PRESIDING MEMBER MOORE: I'm assuming
13 that Intervenors have a copy of that, as well.

14 Any objection to entering that?

15 So entered.

16 (Thereupon, Exhibit 38 was marked for
17 identification and was received in
18 evidence.)

19 MR. MILLER: That would be Number 38.

20 PRESIDING MEMBER MOORE: Good. Ms.
21 Poole, back to you.

22 MS. POOLE: Thank you.

23 TESTIMONY OF

24 JOSEPH ROWLEY

25 called as a witness on behalf of Applicant, being

1 previously duly sworn, was examined and testified
2 further as follows:

3 CROSS EXAMINATION

4 BY MS. POOLE:

5 Q Mr. Rowley, I believe that you stated
6 earlier today -- you were referring to different
7 transmission zones in the state. The Independent
8 System Operator, the ISO, has only created two
9 official transmission zones in the State of
10 California, north of Path 15 and south of Path 15.
11 Correct?

12 A The third zone, the mid-California zone,
13 is a result of congestion on Path 26. So there's
14 Path 15 that establishes the -- what used to be
15 the interface between the northern California zone
16 and the southern California zone. And I'm not
17 sure of the implementation date on the mid-
18 California zone, but there's been a determination
19 that Path 26 is congested sufficiently to warrant
20 the creation of a new zone. So --

21 PRESIDING MEMBER MOORE: Okay. I --
22 we're going to have to get some clarification on
23 that, because I think Ms. Poole is echoing what I
24 was thinking when I heard it, and that is that I'm
25 thinking the last time I talked to the ISO they

1 still had two zones. So we'll have to seek some
2 clarification on that.

3 THE WITNESS: It could be that the
4 implementation is -- if it hasn't been done
5 already, it's imminent. Certainly by the time
6 this project goes in service it'll be -- have been
7 implemented.

8 PRESIDING MEMBER MOORE: Okay. Well,
9 let's -- we'll seek some clarification on that,
10 because I think they're at current -- I'm only
11 aware of two, but we'll clear it up.

12 Ms. Poole?

13 MS. POOLE: Thank you.

14 BY MS. POOLE:

15 Q South of Path 15 includes several old
16 plants that were -- used to be operated by
17 Southern California Edison and San Diego Gas and
18 Electric; correct?

19 A That's correct. And I guess I should
20 also state that regardless of the creation of the
21 mid-California zone, that the project would be
22 south of Path 15, as opposed to, say, Sutter,
23 which is north of Path 15.

24 Q Thank you. And these old Edison and
25 SDG&E plants generate thousands of megawatts;

1 correct?

2 A They're capable of that.

3 Q And you'd be competing against those
4 plants in this market; right?

5 A We would be competing against those,
6 along with all the other generation resources that
7 -- that are in the marketplace. The thing about
8 most of the Edison and San Diego plants is that
9 they are in -- close to load, and have more --
10 they're more able to receive the reliability must
11 run revenues that I spoke of.

12 Q And even with dry cooling, the Elk Hills
13 plant would provide lower cost electricity than --
14 than these old plants; correct?

15 A The overall economics of our project as
16 compared to those, with their fuel supply prices,
17 potential reliability must run revenues, and so
18 forth --

19 Q I'm just -- I'm just asking about the --

20 A Just the dispatch cost?

21 Q -- electricity prices of this -- that
22 this plant would receive, compared to those
23 plants.

24 A If I understand your question correctly,
25 it sounds like you're separating one component of

1 project economics from the overall picture of
2 project economics. The -- the existing plants
3 have advantages on capital recovery, for example,
4 and reliability must run revenues that our project
5 doesn't have, so you can't --

6 Q Well --

7 A -- simply say because the newer project
8 is more efficient, that it somehow --

9 Q That's -- I'm not asking if it's more
10 efficient. What I'm asking is -- let's -- let me
11 step back for a minute.

12 Given the current project configuration,
13 this plant would provide lower cost electricity
14 than those old plants; correct?

15 A I'm trying to answer that question, and
16 when you say provides lower cost electricity --
17 lower cost electricity, are you referring to just
18 the dispatch cost, or the --

19 Q I'm talking about what you're going to
20 bid into the power exchange. As -- as compared to
21 what those plants will bid into the power
22 exchange.

23 A Typically -- well, the way that the
24 economic theory is supposed to work, and generally
25 does work in practice, is that participants in the

1 marketplace bid their variable cost. Our variable
2 cost would be lower than the variable cost of an
3 older generator, but that is only one component of
4 the overall project economics.

5 Q Thanks. And even if this project used
6 dry cooling, would that variable cost consider --
7 continue to be lower than the variable cost of
8 those older plants?

9 A Most likely, yes.

10 Q Thank you.

11 A For that component of the economics.

12 Q And you will displace generation from
13 those old plants when competing with them in
14 energy markets; correct?

15 A It would depend on their reliability
16 must run status.

17 MR. MILLER: I'm going to have to object
18 at this point. It seems to me that what's being
19 called for here is a fair amount of speculation on
20 the part of this witness about what the entire
21 rest of the southern California generating assets
22 will be doing. And --

23 HEARING OFFICER WILLIAMS: Counsel, you
24 are --

25 MR. MILLER: -- I've let it go --

1 HEARING OFFICER WILLIAMS: -- a little
2 late. He's already answered the questions.

3 MR. MILLER: Well, we're getting further
4 and further into this.

5 PRESIDING MEMBER MOORE: You're trying
6 to rein it in to keep it from going in that
7 direction. Let's -- let's keep it on the numbers
8 that have been supplied, Ms. Poole.

9 MS. POOLE: Thank you.

10 BY MS. POOLE:

11 Q You, I believe, put out a number of 15
12 million as the cost for dry cooling?

13 A That's a number that in other instances
14 of looking at the capital cost impact, that our
15 company has -- has uncovered. Yes.

16 Q Is that capital cost for dry cooling
17 alone?

18 A That's the -- that's the differential.

19 Q The difference between --

20 A Dry cooling --

21 Q -- dry and wet cooling. And is that the
22 difference between installed costs?

23 A Yes, I believe it is.

24 Q And what components are included in the
25 wet component of that?

1 A The wet component would be the
2 condenser, the circulating water system, and
3 pumps. The cooling tower. That would be the
4 major components.

5 PRESIDING MEMBER MOORE: And the fans?
6 Didn't you mention the fans?

7 THE WITNESS: The -- the wet -- you're
8 asking -- the components of the wet cost; right?

9 BY MS. POOLE:

10 Q That's right.

11 A Yeah, the fans are integral to the
12 cooling tower.

13 Q And what -- what size facility is that
14 for, that estimate?

15 A For a typical two on one 500 megawatt
16 project such as the Elk Hills Power Project.

17 Q And can you tell me what the source for
18 that estimate is? The vendors?

19 A No, it's internally generated numbers,
20 based on our experience.

21 Q So that's not based on discussions with
22 vendors?

23 A In -- in part, yes. I mean, it's --
24 that's a number that we use as a -- as a bogey,
25 in-house. And it's -- it has basis formed by

1 prior investigations.

2 Q Thanks. I think you also gave a reduced
3 energy output estimate of 16 megawatts. Is that
4 right?

5 A Yes.

6 Q And how did -- where did that number
7 come from?

8 A That was -- that was my own calculation
9 looking at the expansion line end point from two
10 and a half inches of mercury to 6.2 inches of
11 mercury for the -- for a steam turbine that is
12 similar to the one proposed for the Elk Hills
13 Project, using the Elk Hills hot reheat conditions
14 at the upper end of the expansion line, and using
15 the figures I mentioned at the expansion line end
16 points.

17 Q How often will there be transmission
18 line congestion leading to different prices in the
19 northern and southern zones?

20 A I'm not an expert in that area.

21 Q Can you give me a rough estimate?

22 A I'm just not an expert in that area. It
23 -- there's sufficient congestion to have warranted
24 the creation of a zone boundary. The zone -- the
25 zones would only be created if there is

1 substantial congestion between the two areas. If
2 there was not substantial congestion, then there
3 would not be two zones, there would be one zone.

4 So I can give you that kind of a
5 qualitative response, but I'm -- I'm not an expert
6 in the area of how the market behaves in terms of
7 congestion today.

8 Q Is the Otay Mesa plant proposed for
9 south of Path 15?

10 A Pardon me?

11 Q Is the Otay Mesa plant proposed for
12 south of Path 15?

13 A Yes.

14 Q And does it get hot in San Diego in the
15 summertime?

16 A It's relative.

17 PRESIDING MEMBER MOORE: Hold it. It's
18 not -- Otay Mesa is not -- not on this screen.
19 Let's keep it to this project.

20 MS. POOLE: Well, the --

21 PRESIDING MEMBER MOORE: I mean, if you
22 --

23 MS. POOLE: -- the gist of my --

24 PRESIDING MEMBER MOORE: I understand
25 the gist of your question. I also know how many

1 plants are in southern California. And I realize
2 that your line of questioning could have us going
3 down a very long list, looking at whether or not
4 on a hot day, any given plant might be -- might be
5 performing at -- at different levels in different
6 parts of the state.

7 Otay Mesa is not a sited plant. It's
8 proposed. And so I think that's -- that's highly
9 speculative for him to be commenting on in this
10 chamber.

11 MS. POOLE: Okay. I was just going to
12 ask about that one plant, because dry cooling has
13 been proposed for Otay Mesa.

14 PRESIDING MEMBER MOORE: I understand.
15 I understand it's been proposed, but it's -- it's
16 not to its -- it does not have a Presiding
17 Member's Proposed Decision.

18 MS. POOLE: Okay.

19 PRESIDING MEMBER MOORE: Not that I know
20 of. Of course, what I don't know about what goes
21 down the halls here could be legion, but I haven't
22 seen it yet.

23 BY MS. POOLE:

24 Q I'd like to refer to the table from the
25 AFC which has been marked as Exhibit 35.

1 I believe you stated for the use of Elk
2 Hills produced water that Oxy has uses and plans
3 for the produced water. Do you know what those
4 are?

5 A They're stated in the AFC.

6 Q So it's to maintain oil reservoir
7 stability, I believe, is what was stated in that?

8 A I believe it says pressure. To maintain
9 reservoir pressure.

10 Q And what would happen if less produced
11 water was re-injected to maintain oil reservoir
12 pressure?

13 A I -- I have no idea. The project is a
14 stand-alone power generating facility not
15 integrated with the oilfield, and I have no
16 experience in oilfield reservoirs.

17 Q Do you know whether Occidental treats
18 produced water?

19 A I don't know.

20 Q On your groundwater analysis on this
21 table, you use a pipeline length of six miles.
22 Couldn't you pump groundwater from the plant site,
23 or very close to the plant site?

24 A My understanding is, is that the Tulare
25 Formation is best -- best accessed from the south

1 flank of Elk Hills.

2 Q But you don't know of anything that
3 would prevent you from pumping groundwater at or
4 near the plant site?

5 A I'm not familiar with that -- that
6 portion of the groundwater aquifer.

7 Q What are the costs associated with
8 softening water, the water treatment that's cited
9 here?

10 A It's the cost of chemicals, the cost of
11 the equipment to --

12 Q I actually mean specifically what --
13 what are the numbers which you have generated to
14 -- to make these determinations.

15 A This table represents a comparative
16 evaluation of economic and environmental
17 considerations, as called for in the State Policy
18 7558. As I -- as I described at length in my
19 direct testimony, this analysis is what it is.

20 Q So you didn't generate any numbers for
21 the water treatment cost?

22 A No.

23 Q And if you go down that column a couple
24 cells, to cooling tower cycles of concentration
25 and wastewater TDS. Those are numbers without any

1 water treatment; correct?

2 A No, those are numbers with water
3 treatment.

4 Q What -- what --

5 A In other words, to achieve two to four
6 cycles of concentration you could not simply use
7 the Tulare Groundwater in its raw state. Without
8 being softened.

9 Q How -- what level of treatment do you --
10 have you assumed the --

11 A To achieve the -- that's the reason for
12 the range. The range of two to four cycles of
13 concentration brackets the range of treatments
14 that could be applied. What -- what is known in
15 this type of a comparative analysis is that the
16 cycles would certainly be limited, and that there
17 would be costs for softening over and above the
18 treatment proposed for the West Kern Water.

19 Q Can you give me TDS numbers that
20 correspond to those cycles of concentration?

21 A They're stated there, 10,000 corresponds
22 to two --

23 Q I'm sorry. Let me rephrase that. I
24 meant input levels of TDS.

25 A Oh, the TDS is not substantially changed

1 by softening. The TDS -- pardon me, softening
2 only exchanges one type of dissolved solid for
3 another type of dissolved solid. Softening
4 exchanges, for example, sodium for calcium.
5 Calcium tends to create hard deposits on surfaces,
6 whereas sodium has a much decreased tendency to do
7 so. So the TDS is not substantially reduced by
8 softening.

9 Q So you did not consider the use of
10 reverse osmosis?

11 A No, this would not be a practical
12 application for RO.

13 Q Thanks. And then you state in the next
14 cell down that there would be a potential impact
15 on groundwater quality. Did you consider a zero
16 discharge system?

17 A The impact here is assuming that the
18 blow-down is injected into the Tulare Formation,
19 and we -- we did look at a zero discharge system
20 as -- in the range of alternatives, and it's
21 described in the AFC, and elected not to go in
22 that direction.

23 Q But --

24 A For the reasons stated in the AFC.

25 Q But there would be no impact on

1 groundwater quality using a zero discharge system;
2 correct?

3 A If it could be done, yes. That's true.

4 MS. POOLE: Thanks.

5 Thank you. I have a few questions for
6 Mr. Patrick.

7 TESTIMONY OF

8 BRIAN PATRICK

9 called as a witness on behalf of the Applicant,
10 being previously duly sworn, was examined and
11 testified further as follows:

12 CROSS EXAMINATION

13 BY MS. POOLE:

14 Q Mr. Patrick, does the district plan to
15 install any new wells or other infrastructure to
16 supply the Elk Hills Project?

17 A No. Not as a direct result of the Elk
18 Hills Project. The district may install wells at
19 their own discretion, but they're not required for
20 Elk Hills Power Project.

21 Q Does anything prohibit the district from
22 selling water outside of district boundaries?

23 A The district as a policy, I believe,
24 sells water to customers within the district. I
25 don't know of an instance where they sell water to

1 customers outside the district.

2 Q This power plant would be outside of the
3 district, wouldn't it?

4 A I believe it's outside the district at
5 the moment, but I believe there are plans to
6 complete an annexation. I believe we could
7 furnish -- I'd like to continue with my answer. I
8 believe we could furnish water to the Elk Hills
9 Power Project even though it isn't in the
10 district, but they wouldn't have priorities that
11 they might otherwise have.

12 This -- this area was -- used to be
13 federal property, and we have served it for many
14 years.

15 Q Could you elaborate a little bit on what
16 you mean by they wouldn't have priority. Would
17 they have lower priority than industrial users
18 within the district?

19 A Yes. What I mean is we have -- we're --
20 we're a municipal and industrial district, and we
21 have residential customers and industrial
22 customers. In the event of water shortage, the
23 industrial customers would be curtailed so that we
24 could furnish our residential customers.

25 Now, if -- if we were serving a customer

1 outside the district, they would be curtailed
2 before customers within the district would be
3 curtailed. That's what I'm --

4 Q I see. Thank you.

5 A Okay.

6 Q The Groundwater Management Plan, which
7 has been marked as an exhibit, Exhibit 36, I
8 believe, indicates that there are a number of
9 wells in the vicinity of the district's well
10 field. Do you know what the primary uses of those
11 wells are?

12 A No, I don't. You may be referring to
13 wells that are on the Kern Water Bank property,
14 because their property is adjacent to ours. And I
15 suppose they might be extraction wells, but I
16 really don't know anything about them.

17 Q So the district hasn't performed a well
18 interference study of the impact of -- of water
19 for this project on those wells?

20 MR. MILLER: Could -- could I ask you to
21 repeat what wells it is we're talking about? Your
22 question --

23 MS. POOLE: I'm talking about wells that
24 are marked on the groundwater surface elevation
25 maps in Exhibit G to the Groundwater Management

1 Plan.

2 PRESIDING MEMBER MOORE: Let's just take
3 a second and let everybody get oriented to that
4 map, so that we're all --

5 MR. MILLER: I just want to be sure
6 we're talking about the same wells.

7 PRESIDING MEMBER MOORE: -- the same
8 thing.

9 Let's go off the record for probably two
10 minutes.

11 (Off the record.)

12 PRESIDING MEMBER MOORE: Everybody got
13 the map? Let's ask your question again.

14 BY MS. POOLE:

15 Q Okay. I'm on Exhibit G-11, just to make
16 that clear, in Exhibit 36.

17 So let me repeat my question, Mr.
18 Patrick. Do you know what the primary uses of
19 these wells are?

20 A Yes. I believe these wells are
21 monitoring wells only. And they were installed in
22 the past by -- I believe it was DWR.

23 PRESIDING MEMBER MOORE: Does that
24 answer your question?

25 MS. POOLE: Yeah. I do have one follow-

1 up.

2 BY MS. POOLE:

3 Q Do you see the Kern Water Bank wells
4 marked on here?

5 A No, I don't.

6 Q Are those in the vicinity of this map?

7 A I believe Kern Water Bank currently owns
8 this property now. The state used to, but I
9 believe Kern -- the Kern Water Bank is now the
10 owner of the property.

11 Q So those wells would be on this
12 property?

13 A I don't know Kern Water Bank's plan, so
14 I don't know if they're going to drill wells or
15 where they're going to drill wells.

16 Q How much in dollars per cubic feet will
17 the district charge Elk Hills for its water?

18 MR. MILLER: Is that -- is there
19 anything proprietary, before you get pushed into
20 answering this?

21 THE WITNESS: I don't think so.

22 PRESIDING MEMBER MOORE: Those are
23 published rates; right?

24 THE WITNESS: Yes.

25 MR. MILLER: Just checking.

1 THE WITNESS: I believe it's -- it's --
2 I believe it's four cents a barrel. And -- and
3 what units did you want it in?

4 BY MS. POOLE:

5 Q Could you give it to me in dollars per
6 cubic feet?

7 A It's about -- that's about I believe
8 \$350 per hundred cubic feet, so it'd be \$3.50, I
9 guess. I might have to calculate that out. I --
10 I think that's correct.

11 Q Okay.

12 MR. MILLER: Maybe we could -- do you
13 need to take a moment to do that, to be sure,
14 before we accidentally give you the wrong number?

15 PRESIDING MEMBER MOORE: Well, why don't
16 we come back with it. Let's not interrupt the
17 flow.

18 MR. MILLER: Maybe we could have a
19 better idea where we're going to see --

20 PRESIDING MEMBER MOORE: Is there a
21 follow-up on that?

22 MS. POOLE: I have no follow-up to that.
23 I would -- just want the number.

24 THE WITNESS: That's \$350 per acre/foot,
25 excuse me. It's not \$350 per hundred cubic feet.

1 Four cents a barrel is -- is about \$350 per
2 acre/foot, so we'd have to divide that out.

3 BY MS. POOLE:

4 Q The district's State Water Project
5 entitlement is not a firm supply; correct?

6 A Our entitlement is firm. Our allocation
7 varies with the amount of water that the State
8 Water Project has.

9 Q And under the terms of the district's
10 existing contract with Occidental, the district
11 can unilaterally terminate its water supply to Elk
12 Hills with one year's notice. Will you sign a
13 similar contract with -- with this project?

14 A You make a statement that our current
15 contract with the --

16 Q With -- with Occidental.

17 A -- Occidental --

18 Q Actually, I believe it was with Bechtel,
19 and --

20 A Okay. That may be a one-year contract,
21 but there's plans to enter into a long-term
22 contract. It's an interim contract.

23 Secondly, our contract that we
24 contemplate with Elk Hills Power Project will also
25 be long-term.

1 Q Is long-term 30 years?

2 A Yes.

3 Q The Groundwater Management Plan states
4 that deliveries to the Buena Vista Water Storage
5 District in excess of 11,250 acre/feet per year
6 are water owned by the district. Is that per
7 year?

8 A I didn't understand your question.

9 PRESIDING MEMBER MOORE: Want to give us
10 a page reference?

11 MS. POOLE: Sure. Page 5 of the
12 Groundwater Management Plan.

13 MR. MILLER: Where are you at exactly on
14 there?

15 MS. POOLE: I'm trying to find it.

16 (Inaudible asides.)

17 BY MS. POOLE:

18 Q Oh, okay. I'm sorry. The last line on
19 that page, deliveries in excess of 11,250
20 acre/feet have resulted in a water bank owned by
21 the district. Do you see that?

22 A Yes.

23 Q Does that mean that not all of the West
24 Kern Water District's water sent to the Buena
25 Vista Water Storage District can be withdrawn by

1 the West Kern Water District?

2 A I need to take a look at this paragraph
3 in context, because I'm not sure exactly what that
4 means at the moment.

5 Q Okay.

6 A District has contracted with the water
7 agency top receive State Water --

8 MR. MILLER: Just read it to yourself.

9 THE WITNESS: Okay.

10 (Pause.)

11 THE WITNESS: Deliveries of the State
12 Water Project to Buena Vista has averaged 25,000
13 acre/feet a year. It says that. The district's
14 consumptive use is about 11 -- or, is 13,500
15 acre/feet per year. The difference is what we
16 bank.

17 BY MS. POOLE:

18 Q Where does that 11,250 acre/feet number
19 fit in?

20 A That looks like the number that we bank,
21 the average number that we bank since 1979, or
22 something like that. I've seen that number.

23 Q Okay. Let me just ask you this. Can
24 all of the -- I think you said approximately
25 230,000 acre/feet that are currently banked by the

1 West Kern Water District, can all of that be
2 withdrawn?

3 A That is our current bank number. I
4 imagine if we tried to withdraw 230,000 acre/feet,
5 that we would be challenged. I don't know that as
6 a fact.

7 Q Why do you imagine that?

8 A Because I think that would have an
9 impact on our neighbors.

10 MS. POOLE: Okay. Thank you.

11 I just have one -- one more quick
12 question for Mr. Rowley.

13 CROSS EXAMINATION (Resumed)

14 BY MS. POOLE:

15 Q Mr. Rowley, I think that you testified
16 to an incremental cost number of 2.4; is that
17 right?

18 A Yes.

19 Q Can you briefly tell us how you got that
20 number?

21 A Rather than being a number that was
22 generated by Elk Hills Power, that number
23 represents commentary on Ms. Fox's testimony. So
24 in making a couple of obvious corrections to that
25 calculation, the result was 2.4.

1 Q I guess -- can you specify for me what
2 corrections you made in your work?

3 A The total installed cost difference
4 between the wet versus dry cooling systems, that
5 is the first block of data, as stated in Table 1
6 of Ms. Fox's testimony, the delta is about six
7 million. And that number should be something more
8 like 15. So add nine onto the right column, or
9 subtract from the left, or do some of both, but
10 increase the differential so that the differential
11 is 15 rather than six. That's one correction.

12 The other correction is the water
13 treatment facility shown here, water treatment
14 plus wastewater treatment, 3.2 --

15 PRESIDING MEMBER MOORE: Everyone shut
16 theirs off? Would you -- yeah, let's try and go
17 back on again. Sorry for these technological
18 snafus. Keep going, Mr. Rowley.

19 THE WITNESS: Okay. The combined total
20 of the water treatment of 3.2 million, and the
21 wastewater treatment of one million in the dry
22 column, for a total of 4.2, I believe is -- is
23 significantly understated. And I would add -- I
24 believe I added six million to that, to make it
25 ten rather than four. That makes the --

1 BY MS. POOLE:

2 Q Six million to both water treatment and
3 wastewater treatment?

4 A The combined total. In other words,
5 with the revision under cooling system, and the
6 revision under water treatment and wastewater
7 treatment, that's plus nine, plus six, for a total
8 of 15. That's -- that's a different 15 than the
9 one that I talked about earlier.

10 In other words, the differential between
11 the wet versus dry, I've added 15 to the right-
12 hand column, or subtracted some from the left-hand
13 column. It doesn't really matter. The
14 differential is -- is broadened by that much.

15 Would you like me to repeat that again?

16 Q I had understood you earlier to say that
17 the 15 million in your estimate was the difference
18 between capital cost. Is that --

19 A Yeah, that --

20 Q -- that correct?

21 A -- the 15 million I just spoke of, it's
22 an unfortunate coincidence that it's the same
23 number. But it's -- it's -- let me start over.
24 In fact, let me just state this in the simplest
25 way possible.

1 If we add \$9 million to the cooling
2 system or the dry system, and add a total of six
3 million to the water supply and wastewater
4 disposal cost combined, for the dry system, that's
5 15 million additional in the right-hand column.

6 That's coincidentally the same -- that's
7 -- coincidentally also happens to be the
8 differential in just the cooling system, but it's
9 a different 15.

10 Q So the nine, where does the nine come
11 from?

12 A Again, as I testified, the -- we
13 estimate the capital cost difference for the
14 cooling system alone to be 15 -- between wet
15 versus dry, is 15 million. You're only showing a
16 difference here of six million. Therefore, nine
17 needs to be added to the right-hand column, or you
18 could add eight to the right-hand column and
19 subtract one from the left-hand column. It
20 doesn't really matter. The differential is what
21 we're after.

22 Q I got you. Thank you.

23 A Okay. And then going on down the -- the
24 table, there's a .6 and a .3 million under O&M
25 costs. I believe those are understated as well,

1 and rather than being a total of .9 I would -- I
2 would say that's probably something more like
3 double that. And then the reduced energy output,
4 the 16 megawatts of reduced steam turbine output
5 plus the four or five megawatts of increased
6 auxiliary load for the air cooled condenser fans,
7 for a total of roughly 21 megawatts of net
8 reduction in power output, that's -- we're using
9 the \$30 per megawatt an hour PX number that Ms.
10 Fox used in the table, and using her 8424 hours
11 per year results in \$5.2 million. Rather than the
12 1.4 that's stated in the table.

13 So if you total all those up, and -- and
14 I need to emphasize that to annualize the capital
15 costs, I simply used CURE's number and did not --
16 I'm not commenting on that one way or the other.
17 Annualize the capital, total up the O&M, and
18 divide by the generation, and it comes out to 2.4.

19 Q Did I just hear you say 21 megawatts for
20 reduced energy output?

21 A Sixteen is reduced output from the steam
22 turbine, and five is increased auxiliary load to
23 run the fans. SO the -- the net difference at the
24 plant thus far would be 21.

25 MS. POOLE: Okay. Thank you.

1 PRESIDING MEMBER MOORE: Mr. Taylor, any
2 further questions?

3 MR. MILLER: Yes, I have some redirect,
4 please.

5 PRESIDING MEMBER MOORE: All right.

6 MR. MILLER: Let's stick with Mr.
7 Rowley.

8 REDIRECT EXAMINATION

9 BY MR. MILLER:

10 Q In the questions that you were asked
11 about competitive facts, regardless of the myriad
12 of possibilities with regard to competitive sales
13 in southern California, would you -- would it be
14 true to say, in your opinion, that there would
15 definitely be competitive disadvantages between
16 the Elk Hills Power Project and the La Paloma
17 Power Project?

18 A Absolutely. The projects are very
19 similar in almost all other respects.

20 Q And if you --

21 A Well, I should back up. There is one
22 other difference between the projects that I
23 haven't mentioned. The elevation at which the --
24 well, we wanted to take maximum advantage of the
25 74 square mile buffer offered by the Elk Hills oil

1 and gas field. That required that we put the
2 plant roughly in the center of the oil and gas
3 field. Unfortunately, it's a -- it is a hill, and
4 the elevation is higher. As a result, the plant
5 performance suffers. The elevation causes the --
6 the output to go down and the heat rate to go up.
7 The output impact is significant, the heat rate is
8 -- impact is small. But the cost -- as a result,
9 the cost per kilowatt of the Elk Hills project, by
10 siting the project in the middle of that 74 square
11 mile buffer, is higher than La Paloma -- well,
12 than the project otherwise would be if it were
13 sited at the La Paloma site.

14 Q Thank you. And with regard to water
15 alternatives, you were asked a question about
16 whether formation water could be obtained from an
17 onsite well. Do you recall that?

18 A Yes.

19 Q And you were asked why wouldn't that be
20 feasible. Do you happen to remember, from the
21 review of the AFC and past knowledge of the
22 project and the area, what the depth of the
23 groundwater is in that area?

24 A My recollection is is that the aquifer
25 is more or less a constant elevation, so as the

1 terrain rises the apparent depth from the ground
2 surface to the aquifer is substantially greater at
3 the top of the hill than it is at the south flank.
4 That's my recollection.

5 Q And if I refresh your recollection and
6 suggested it might be a thousand feet to -- does
7 that sound like the number that you've seen in the
8 AFC?

9 A The hill is about a thousand feet high.
10 From the -- the flat area surrounding the hill to
11 the top of the hill there's about a thousand foot
12 differential, so that -- that would track.

13 Q So there would be a substantial pumping
14 cost assuming that water could be physically
15 retrieved from that zone, because of its -- the
16 nature of the zone, porosity, and so on?

17 A That's right.

18 Q Thank you. You were also asked about
19 the feasibility of RO, and you said it wouldn't be
20 feasible. Could you explain why?

21 A Yes. When -- the way a reverse osmosis
22 works is you push the water at high pressure
23 through a membrane that is so fine that it
24 actually filters out -- filter's not the right
25 word, but it -- it actually causes the dissolved

1 solids to stay on one side of the membrane. And
2 the water that contains those dissolved solids has
3 to be rejected from the system as a -- what's
4 called an -- a reject stream, and it's a large
5 volume of water.

6 It's still a -- it's a large volume of
7 water with higher dissolved solids than what was
8 supplied to the system, so you would still have to
9 deal with that. And there's -- there's no, I
10 guess, engineering reason to go in that direction,
11 which just creates another waste stream.

12 Q Thank you. And that would be in
13 reference to -- I should've said this probably in
14 my question -- the use of the formation water, as
15 I recall.

16 A Right.

17 Q Right. And there was also a question I
18 believe about using a zero discharge system.

19 A That's --

20 Q Could you elaborate just a bit on why
21 that wouldn't be appropriate here, in your view?

22 A It's addressed in the AFC in the
23 alternatives section, that -- just briefly, the
24 zero discharge alternative involves pre-treatment
25 and -- pre-treatment on the front end of the

1 plant, as well as evaporation and crystallization
2 equipment on the back end of the plant. And you
3 have to have onsite storage for sludge and so
4 forth, and then you have to be able to dispose of
5 that offsite. So there -- there are a lot of
6 costs involved, there are -- there are waste
7 streams generated that would otherwise not be
8 generated. There's additional power consumption.
9 There are additional chemicals onsite that
10 otherwise would not be there.

11 And lastly, this -- all this stuff takes
12 up a lot of space, and we're actually, in spite of
13 the fact that we have a 74 square mile area,
14 actually OEHI, Occidental of Elk Hills has a 74
15 square mile area, our plant site is really quite
16 small. And -- and space is at a premium. We --
17 we don't have space for a zero discharge system on
18 the plant site.

19 MR. MILLER: Thank you. I'd like now to
20 ask a follow-up or two to Mr. Patrick, and we'll
21 be done.

22 REDIRECT EXAMINATION

23 BY MR. MILLER:

24 Q First, you were asked about the ability
25 of the district to sell water outside its

1 boundaries. Is it true that you are currently
2 selling water to the Occidental of Elk Hills to
3 operate the existing oilfield activities?

4 A Yes, it is.

5 Q And that has been going on for how long?

6 A We supplied that -- the -- the previous
7 owner, the federal government, I think it was
8 operated by Bechtel, with water for years. And
9 then when Occidental completed its purchase we've
10 continued to furnish them water.

11 Q So you can sell water outside the
12 district, the difference being if the consumer of
13 that water would -- excuse me, start over.

14 You can sell water outside the district
15 -- you, being the district here -- however, the
16 party taking that water would not have as high a
17 priority among industrial users in the event that
18 they were outside the district. Is that correct?

19 A I think that's correct.

20 Q Okay. Thank you.

21 Finally, one other question. You were
22 asked about whether the water from the bank could
23 all be withdrawn. The question specifically was,
24 could you -- could you take 230,000 acre/feet of
25 water.

1 I suppose a more realistic question
2 might be, in the event that in a given year the
3 district needed to withdraw just enough water to
4 make up for a low water year from the State Water
5 Project, perhaps a deficit in that particular year
6 of 5,000 acre/feet, would there be any problem in
7 withdrawing that amount of water from the water --
8 your banked water supply?

9 A We wouldn't expect one. Shouldn't be
10 any problem.

11 Q And how about 10,000 acre/feet?

12 A I don't think there would be a problem.

13 Q So the question of -- you would never --
14 well, let's -- one further question.

15 Your total demand in a given year
16 without the new power projects is how many
17 acre/feet, average?

18 A About 13,000.

19 Q And with the new projects it would be
20 how much?

21 A Around 22,000.

22 Q So, and your average allocation from the
23 State Water Project is how much?

24 A Average about 20,000, I believe.

25 Q So the deficit we would be talking about

1 might be 2,000 in one year?

2 A Yes, that could be.

3 Q Although in a wet year you would not
4 have any deficits?

5 A That's right. In a -- in a 100 percent
6 year we'd get 25,000.

7 Q So if you had your average over a long
8 term, and you have a 2,000 acre/foot deficit every
9 year, just assuming that that happened, how long
10 would it take you to approach the amount of banked
11 water you have available?

12 A Two hundred and thirty thousand divided
13 by two thousand would be 115 years.

14 Q So in that regard, you feel you have
15 ample supplies and ample ability to pump those
16 supplies?

17 A Yes. But I would also like to add that
18 our board of directors is aware that -- that we
19 might have this shortfall, and they intend to buy
20 water during wetter years and recharge with it to
21 make up any shortfall.

22 MR. MILLER: Thank you. I have no
23 further questions.

24 HEARING OFFICER WILLIAMS: Should the
25 district sign a contract with the Applicant, would

1 that raise the Applicant's footing in terms of
2 priority with the industrial users, say, or --

3 MR. PATRICK: If we would -- if we would
4 sign a contract with the Applicant would that
5 raise the priority?

6 HEARING OFFICER WILLIAMS: Right.

7 MR. PATRICK: Yes. They would be equal
8 to the other industrial users. As long as we
9 annex them into the district. They have to be
10 into the district.

11 PRESIDING MEMBER MOORE: And you think
12 that annexation is in front of LAFCO right now?

13 MR. PATRICK: That's not in front of
14 LAFCO at the moment, but there's -- I believe that
15 once the CEC proceedings are complete, that --
16 that the Applicant intends to annex into our
17 district.

18 PRESIDING MEMBER MOORE: Recross.
19 Staff?

20 MS. WILLIS: None.

21 PRESIDING MEMBER MOORE: Recross, Ms.
22 Poole?

23 MS. POOLE: None.

24 PRESIDING MEMBER MOORE: Thank you.
25 Staff.

1 MS. WILLIS: Thank you. We would like
2 to call Joe O'Hagan and Robert Anderson. And Mr.
3 Anderson has been previously sworn.

4 HEARING OFFICER WILLIAMS: Would you
5 swear the witness that hasn't been sworn, please?

6 (Thereupon, Joseph O'Hagan was, by the
7 reporter, sworn to tell the truth, the
8 whole truth, and nothing but the truth.)

9 MS. WILLIS: Before we get started, I
10 believe you may have received two errata sheets.
11 The one that we would like to have marked as an
12 exhibit is one that is just completely typed,
13 there is no handwriting on it. And it should say
14 Elk Hills Power Project, Soil and Water Resources
15 FSA Errata.

16 PRESIDING MEMBER MOORE: We have it.

17 MS. WILLIS: Got it?

18 HEARING OFFICER WILLIAMS: We'll discard
19 the --

20 MS. WILLIS: The other one. Thank you.

21 HEARING OFFICER WILLIAMS: And it's
22 marked as 21-L.

23 TESTIMONY OF

24 JOSEPH O'HAGAN

25 called as a witness on behalf of Commission Staff,

1 being first duly sworn, was examined and testified
2 as follows:

3 DIRECT EXAMINATION

4 BY MS. WILLIS:

5 Q Mr. O'Hagan, could you please state your
6 name for the record?

7 A Joseph O'Hagan.

8 Q Did you prepare the section of the FSA
9 Part 2 entitled Soil and Water Resources?

10 A I prepared a portion of it, and the
11 remaining portion was prepared under my
12 supervision.

13 Q And that part -- FSA Part 2 has been
14 previously identified as Exhibit 19-A. Did you
15 also prepare or assist in preparing the supplement
16 to the Soil and Water Resources section marked as
17 Exhibit 19-B?

18 A Yes, I assisted in preparing that.

19 HEARING OFFICER WILLIAMS: Counsel,
20 excuse me. We seem to have lost Commissioner
21 Moore. Does any party object to proceeding
22 without him?

23 MR. MILLER: I would prefer to take a
24 short pause, if possible.

25 HEARING OFFICER WILLIAMS: Okay. Let's

1 take five. Perhaps he'll be back.

2 (Off the record.)

3 PRESIDING MEMBER MOORE: I apologize. I
4 didn't realize Major was going to call time out
5 when I got that phone call.

6 And let me just say, so that everybody's
7 prepared, if we get onwards of four o'clock and
8 we're -- it still looks like we've got a ways to
9 go, I'm going to have to call time out and -- for
10 about 20 minutes, because I have a -- an errand
11 that I'll have to run, and then we'll start back
12 up again.

13 So if we can close it out by then, let's
14 do it. If not, then I have to -- all right.

15 Counselor, you're on.

16 MS. WILLIS: Thank you.

17 BY MS. WILLIS:

18 Q Mr. O'Hagan, did you include a statement
19 of your qualifications?

20 A Yes, I did. I believe they're
21 available.

22 Q And that has been marked as Exhibit 21-
23 J.

24 Do you have any changes or corrections
25 to your testimony at this time?

1 A We have the errata, which has been
2 handed out.

3 MS. WILLIS: And for the record, that's
4 been marked as 21-L. Would you -- Mr. Hearing
5 Officer, would you care for Mr. O'Hagan to go
6 through the changes?

7 HEARING OFFICER WILLIAMS: No, that's
8 not necessary.

9 MS. WILLIS: Okay.

10 BY MS. WILLIS:

11 Q Do the changes that you present today
12 change any of your conclusions in your testimony?

13 A No.

14 Q And with these changes, are the facts
15 contained in your testimony true and correct?

16 A Yes.

17 Q And do the opinions contained in your
18 testimony represent your best professional
19 judgment?

20 A Yes.

21 Q Could you please provide a brief summary
22 of your testimony.

23 A Okay. Staff's analysis in the area of
24 Soil and Water Resources -- thank you -- address
25 the potential impacts from the proposed project --

1 sorry -- to address the potential for the project
2 to cause accelerated erosion and sedimentation, to
3 adversely affect surface and groundwater supplies,
4 and also to adversely affect the quality of
5 surface and groundwater.

6 The project, including the power plant
7 site, proposed laydown area, and the associated
8 linear facilities will temporarily and permanently
9 disturb a significant acreage. The Applicant has
10 proposed -- provided Staff with a draft Erosion
11 Control and Storm Water Management Plan that
12 identified best management practices that would,
13 if properly implemented, would address the
14 potential for erosion and storm water runoff
15 impacts from the project. Staff has included in
16 the FSA a condition of certification regarding
17 that.

18 Staff looked at the potential for the
19 proposed project to adversely affect the West Kern
20 Water District, in terms of the potential water
21 supply. The project anticipates using about 3100
22 acre/feet of water per year. As indicated in the
23 Applicant's testimony, this is groundwater. West
24 Kern Water District gets their water supply from
25 both State Water Project water that -- from their

1 entitlement through the Kern County Water Agency,
2 and purchases from other water agencies through
3 the California Aqueduct and also groundwater
4 supply.

5 The project supply would be from
6 groundwater. The district, given their
7 entitlement to State Water Project water and their
8 extensive groundwater bank, over 230,000
9 acre/feet, there should be no adverse effects on
10 the -- the district to supply the project.

11 Staff also evaluated this from a
12 cumulative effect. We have other projects
13 proposed and approved in the area that will be
14 getting water from West Kern Water District, and
15 that includes the La Paloma Power Project, which
16 has been certified by the Commission, and the
17 proposed upgrade to the Midway Sunset Project, and
18 also the Sunrise Power Project will be getting
19 water from that.

20 Looking at the additive number that will
21 be a significant increase for the district, but as
22 Mr. Patrick has testified, that given their
23 ability to purchase water through the California
24 Aqueduct from other water providers in years when
25 there's excess water, and their extensive

1 groundwater banking, there shouldn't be any impact
2 to the district or its customers by providing
3 water to the project.

4 The proposed project is outside the
5 district's boundaries, but historically the
6 district has provided water to the federal
7 government, DOE operation of the Naval Preserve,
8 and then they've continued to provide water to the
9 private oil company, Occidental, that has --
10 during privatization took over the field.

11 The other concern we took a look at is
12 wastewater disposal. As indicated, that the
13 Applicant will be disposing of approximately
14 12,000 barrels, or about 500,000 gallons of water
15 per day in an injection well. They were proposing
16 two injection wells. One would be used, one would
17 be a backup. The water quality of the injectate,
18 as indicated, primarily consists of blowing down
19 the other wastewater streams from the project.
20 TDS is about 1200 milligrams per liter.

21 The receiving zone, as discussed by the
22 Applicant, is in the Tulare Formation. Staff's
23 evaluation of that is -- of potential impacts from
24 that, we can address in a minute. But we don't
25 see any potential for impacts, and Mr. Anderson

1 will talk about a concern about potential faulting
2 in the area.

3 One of the things that Staff also
4 addresses is the proposed project's compliance
5 with applicable laws, ordinances, and standards.
6 With the exception of the State Water Resources
7 Control Board Policy 7558, Staff was able to
8 conclude that the project will comply with all
9 applicable laws, ordinances, and standards.

10 The project will be getting permits from
11 other involved agencies. The U.S. EPA is
12 requiring a Class 1 Underground Injection Control
13 Permit. The Applicant has applied for that. I
14 had a discussion with George Rovin of the EPA
15 yesterday, and he anticipates that a draft permit
16 will be out by the end of May. He feels that's a
17 conservative estimate, too. Normally, EPA will
18 put out a draft permit for a 30-day review period,
19 and based on comments, then issue a final -- final
20 permit.

21 Injection wells also may require a waste
22 discharge requirement from the Regional Water
23 Quality Control Board. But since EPA is issuing
24 the permit for the injection wells, the Regional
25 Board will likely waive the requirement for a

1 waste discharge requirement.

2 Also, there -- the Applicant, because of
3 crossing waters of the United States, will be
4 getting a nationwide permit. And also, the
5 Regional Board will have to issue a 401
6 Certification of -- of that, which is basically
7 the state ensuring that the Army Corps' permit
8 complies with state water quality standards.

9 The Staff -- two issues were raised.
10 One was in a letter sent by -- provided by CURE in
11 terms of a potential fault that was identified
12 from air photos near the proposed injection well
13 site, and to address this issue as well as to try
14 to further address the State Water Resources
15 Control Board Policy 7558, Staff provided
16 supplemental testimony subsequent to the filing of
17 the FSA.

18 MS. WILLIS: To discuss the supplement
19 I'm going to turn to Mr. Anderson. Mr. Anderson
20 has previously been sworn and also has stated his
21 qualifications for the record.

22 TESTIMONY OF
23 ROBERT ANDERSON

24 called as a witness on behalf of the Commission
25 Staff, being previously duly sworn, was examined

1 and testified as follows:

2 DIRECT EXAMINATION

3 BY MS. WILLIS:

4 Q Mr. Anderson, did you evaluate -- did
5 you assist in the preparation of the supplement to
6 the --

7 A Yes, I did.

8 Q -- I'm sorry. To the Water and Soil
9 Resources?

10 A Yes, I did.

11 Q And what part were you -- of that
12 supplement were you responsible for?

13 A I prepared the portion entitled
14 Lineations and a discussion on the injection
15 wells. That's in the Soils and Water Resources
16 supplemental testimony.

17 Q And what -- and how did the supplement
18 come about? What was the purpose of providing the
19 supplemental testimony?

20 A The purpose for providing the
21 supplemental testimony with respect to the
22 lineations and the injection wells was so that we
23 would actually -- we were responding to a letter
24 that we received through CURE, that was prepared
25 by William Lettis Associates, Inc., which is a --

1 or is a consultant for CURE. It was dated
2 November 16th, 1999.

3 I became aware of the letter shortly
4 after New Year's, the 2000, and we needed to take
5 a look at the lineations that were pointed out and
6 the aerial photocopies that were provided by
7 William Lettis and Associates to us, and to other
8 parties. And inasmuch as that we needed to be
9 able to ground verify whether these were potential
10 faults or some other entities on the ground.

11 Q Did you arrange for a site visit?

12 A Yes, I did.

13 Q And --

14 A I -- I had the project manager for the
15 California Energy Commission contact the various
16 parties, and also have the workshop noticed. And
17 that's -- the workshop occurred February 18th,
18 2000, and representatives from William Lettis
19 Associates there, the California Energy
20 Commission, Elk Hills, and several other parties,
21 as well.

22 Q And could you please describe what you
23 observed on the site, and your subsequent
24 conclusions?

25 A We went to the site. We first started

1 at the -- we were on the Elk Hills properties. We
2 went to the area where the proposed injection
3 wells are near the petroleum tank farm that's
4 being -- currently being demolished. We observed
5 the two well locations that they're in areas that
6 were fairly well disturbed already. And they had
7 moved up structure from where they initially
8 proposed.

9 Then we walked up structure and looked
10 at some of the lineations that were evident in the
11 aerial photos. Turned out that some of the
12 lineation elements were artifacts of different
13 oilfield activities, namely oil pipelines, or
14 excavations for oil pipelines, or trails from one
15 point to another.

16 There were also some vetting from the
17 Tulare Formation that appeared to be coincident
18 with the lineations. And what we were looking at
19 appeared to be just a contact from one vetting to
20 another, and not fault related whatsoever.

21 Q Does that conclude your testimony?

22 A Yes, it does.

23 MS. WILLIS: Thank you.

24 ///

25 ///

1 DIRECT EXAMINATION (Resumed)

2 BY MS. WILLIS:

3 Q Mr. O'Hagan, in the Final Staff
4 Assessment Part 2, and also in the supplement, you
5 discuss the State Water Resources Control Board
6 Policy 7558, which was also discussed in CURE's
7 supplemental testimony. Could you please provide
8 your interpretation of this policy? And just for
9 the record, we're not going to reiterate Mr.
10 Rowley's direct word for word comparisons from
11 CURE's testimony, if that's okay with the
12 Committee.

13 PRESIDING MEMBER MOORE: That's fine.
14 If you want to just reference what you're talking
15 about.

16 THE WITNESS: Just to reiterate what the
17 policy addresses. It proposes that alternative
18 sources of fresh inland water be used --
19 alternative sources of water be used for power
20 plant cooling to fresh inland waters. The -- this
21 policy was adopted in 1975, and it identifies a
22 priority of alternative water supplies that could
23 be used, including ocean water, wastewater
24 discharge to the ocean, brackish water, irrigation
25 return flows.

1 Taking -- evaluating the potential
2 sources -- alternative sources of water for the
3 project, we identified that there is the Tulare
4 produced water in the Elk Hills oilfield, which
5 has a TDS level of 20,000 to 40,000 milligrams per
6 liter. Without extensive treatment, I don't think
7 this water would be suitable for use as going to
8 our makeup water. I think that that would involve
9 some potential environmental issues. There would
10 be some waste disposal issues. There is quite a
11 possibility that treating that water would raise
12 some hazardous waste disposal issues. It
13 certainly has a very high TDS.

14 There is the Tulare -- Lower Tulare
15 Formation Water where the injection well would be
16 disposing that water. It is a lower TDS of four
17 to 5,000 milligrams per liter, and that was one
18 potential. There are no wastewater treatment
19 plants in the region that could supply the
20 project. Irrigation return flows are too small
21 and erratic over the course of a year to be a
22 suitable supply.

23 The -- also, the policy also urges that
24 the use of alternative cooling technology to dry
25 cooling or wet/dry cooling be evaluated, and the

1 policy calls for that the cost of these, as well
2 as the water reduction be identified. Staff -- in
3 my testimony, I did not provide specific numbers.
4 I have provided specific numbers in other
5 testimony, on the La Paloma project, for instance.
6 Other Staff has provided information on the High
7 Desert Power Project.

8 I think that one of the things that
9 Staff has found is that we can cite numbers from
10 the Sutter Project or Crockett, or estimates by
11 other applicants, but that the -- the use of dry
12 cooling or wet/dry cooling would provide
13 environmental benefit through the reduction of
14 water demand, but may be an economic burden on the
15 Applicant.

16 And the problem that I had in preparing
17 -- evaluating whether the project would comply
18 with the State Water Resources Control Board
19 policy is that the policy says that, you know,
20 other sources should be used unless economically
21 unsound. And I had discussions ongoing for quite
22 a while with State Water Resources Control Board
23 staff, their legal staff. They have had no
24 experience working on -- in terms of
25 implementation of this policy. To the best of

1 their knowledge and the best of my knowledge, the
2 State Board has never had to implement this --
3 their own policy.

4 The -- one of the questions they did
5 agree with me that -- that what -- economically
6 unsound is not referring to economically
7 infeasible. That, in fact, it is a lesser test
8 that would -- somehow you would balance the cost
9 and how it would affect the project. And clearly,
10 when this policy was adopted in 1975, power
11 generation in California was a different picture.
12 We have, you know, regulated monopolies, and
13 additional costs to implement a policy like this
14 could be passed on to the ratepayers.

15 Now we're dealing -- and also, you were
16 looking at larger facilities, coal-fired and
17 nuclear facilities whose water demand was quite
18 extensive, and could really have regional impacts.
19 Now we're looking at smaller facilities, gas-
20 fired, and a competitive market. And -- and where
21 Staff has problems is that we're not able to -- we
22 know these things cost significantly more than wet
23 cooling. Maybe not a whole lot significantly
24 more, but we can't make the evaluation of what is
25 economically unsound or what is economically sound

1 in terms of a project's competitiveness.

2 We can come up with cost estimates for
3 water treatment, you know, dry cooling, towers,
4 what-not, but we can't say how that would affect
5 the project because we don't have the full
6 financial picture for the project.

7 PRESIDING MEMBER MOORE: So you're
8 leaving the judgment call to the investors and to
9 this dais.

10 THE WITNESS: Well, I was hoping maybe
11 the Committee could give me some guidance, too.

12 PRESIDING MEMBER MOORE: Well, we'll --
13 I'll keep that in mind as I write the -- write the
14 decision. But for right now, I -- I think you've
15 stated your point pretty clearly.

16 THE WITNESS: Okay. And I guess, just
17 to reiterate, is that we didn't identify any
18 environmental impacts from the project, so it
19 really becomes a question of what this policy
20 means. I -- I think the goals of the policy are
21 very admirable. I just think that without
22 clarification, it's -- it's not very useful.

23 PRESIDING MEMBER MOORE: Okay.
24 Counselor?

25 HEARING OFFICER WILLIAMS: Let me just

1 state for the record also that Commissioner
2 Pernell has arrived, and is now present.

3 BY MS. WILLIS:

4 Q Does that conclude your testimony?

5 A Yes, it does.

6 MS. WILLIS: Okay. Thank you.

7 At this time we would like to move the
8 Soil and Water Resources section of the -- I think
9 it's 19-A, and the supplement, 19-B, Mr. O'Hagan's
10 declaration and resume, 21-J, and the errata, 21-
11 L, into the record.

12 HEARING OFFICER WILLIAMS: Any
13 objection?

14 MR. MILLER: NO objection.

15 HEARING OFFICER WILLIAMS: So moved.

16 (Thereupon, the Soil and Water Resources
17 sections of Exhibits 19-A, 19-B, 21-J,
18 21-L were received into evidence.)

19 MS. WILLIS: And these witnesses are
20 available for cross examination.

21 PRESIDING MEMBER MOORE: Cross
22 examination?

23 MR. MILLER: I have just a couple of
24 quick questions.

25 ///

1 CROSS EXAMINATION

2 BY MR. MILLER:

3 Q Mr. O'Hagan, you were -- you referred to
4 La Paloma Project, and I believe you took care of
5 the -- this same topic on La Paloma, and you did
6 the testimony on Soil and Water Resources.

7 A Yes, I did.

8 Q Do you recall at the hearing that was
9 held on that project, there was some discussion of
10 some specific cost differential numbers for using
11 dry cooling?

12 A Yes, there was.

13 Q And if I suggest numbers to you, do you
14 think you will remember what they were?

15 A Possibly.

16 Q Okay. We'll give it a try. The
17 testimony that you gave at that time, and I'm
18 looking at the transcript --

19 MS. POOLE: Excuse me. I think I need
20 to object here. As I understand the previous
21 ruling in this case was that -- sorry. Let me
22 repeat.

23 I am raising an objection because I had
24 understood that the Committee had previously ruled
25 in this case that the transcripts and documents

1 from other proceedings weren't relevant in this
2 case.

3 PRESIDING MEMBER MOORE: I'm going to --

4 MR. MILLER: I'm not going to introduce
5 the transcript.

6 PRESIDING MEMBER MOORE: No, I -- I
7 think we're going to try and hold this to -- she's
8 right. I -- I held the line on the Otay Mesa.
9 Let's -- let's stay with what's on --

10 MR. MILLER: What -- if I may, what I am
11 asking for is this witness's knowledge of other
12 data regarding cost differentials. And my
13 understanding has been that CURE is very
14 interested in knowing what this cost information
15 is, and --

16 HEARING OFFICER WILLIAMS: Apparently
17 not, Counsel. They objected.

18 MR. MILLER: But I don't think that it
19 requires going into another case to ask the
20 witness what his knowledge is.

21 HEARING OFFICER WILLIAMS: Well, I -- I
22 think the ruling has already been made, so let's
23 just move on.

24 MR. MILLER: Would it be acceptable to
25 use a -- a PMPD decision in another matter for a

1 citation on this?

2 PRESIDING MEMBER MOORE: If -- well,
3 let's see. Where --

4 MR. MILLER: Or a Final Decision.

5 PRESIDING MEMBER MOORE: -- where are
6 you trying to go, Counselor? Let's see if we can
7 --

8 MR. MILLER: I am simply trying to
9 provide a full record on this, which is what we
10 want, of course. And the discussion we had
11 earlier included some concerns of the Committee
12 that there be some data. There is some data, and
13 was -- it's not -- it's an estimate, I grant you,
14 but we have information in -- provided in the
15 record, and I believe it's -- may be cited in the
16 decision, I have to look it up, in La Paloma, as
17 well as Sutter, as well as High Desert, on what
18 the general -- range of additional cost is.

19 PRESIDING MEMBER MOORE: Well, and
20 you're --

21 MR. MILLER: And all I'm suggesting is
22 that that -- this witness knows what those numbers
23 are, and he simply include it in his testimony.

24 MS. POOLE: Well, this witness has
25 already testified that he doesn't know what those

1 numbers are.

2 MR. MILLER: He said he knows what the
3 numbers are. He's having a hard time determining
4 what the consequences would be for an individual
5 project.

6 PRESIDING MEMBER MOORE: Okay. Let me
7 just say your witness did put such numbers on the
8 table. If there are alternative numbers from
9 Staff, they failed to put them on, and you have
10 numbers that have been offered up in the document
11 submitted by the Intervenors, which you'll have a
12 chance to challenge when they come up, through
13 your cross examination.

14 But I think I'm going to have to ask you
15 to -- to stay away from this topic in terms of
16 Staff, because they simply don't have it on the
17 record. And again, I -- I'll go back to my
18 earlier comment that it's an unfortunate way that
19 this worked out, and I'm sorry that -- that the
20 documents weren't more complete. And I think in
21 the interest of fairness, I'm going to have to ask
22 you to --

23 MR. MILLER: All right.

24 PRESIDING MEMBER MOORE: -- stay away
25 from it on this one, and you'll be able to come

1 back to it in a different way when the Intervenors
2 testify.

3 MR. MILLER: Very well. That was
4 actually the only question I had.

5 PRESIDING MEMBER MOORE: Questions.

6 MS. POOLE: Yes.

7 CROSS EXAMINATION

8 BY MS. POOLE:

9 Q Mr. O'Hagan, have you had a chance to
10 review Attachment B to Dr. Fox's supplemental
11 testimony, which was filed on March 6th?

12 A Is that the State Policy for Water?
13 Yes, I have.

14 Q And does that document state at the
15 bottom of the first paragraph that State Policy
16 for Water Quality Control is binding on other
17 state agencies?

18 A Yes, it does.

19 Q And have you had the opportunity to
20 review Water Code Section 13146, which is also
21 cited there in the attachment?

22 A No, I haven't.

23 Q Okay. Could you tell me who you talked
24 to at the State Water Resources Control Board?

25 A Certainly. We had discussion on this

1 topic previously with Craig Wilson, who's Deputy
2 Chief Legal Counsel. We also had a discussion
3 with Tim Regan, who's a legal counsel for the
4 Central Valley Regional Water Quality Control
5 Board, in which -- the project falls within their
6 jurisdiction.

7 And then the main conversation has been
8 with Sheila Vassey, who's also a staff counsel for
9 the State Board, and Sheila's responsibility is
10 for State Water -- Water Quality Control Board
11 policies and plans.

12 And so I -- I discussed this issue with
13 sheila in the past, and we've had a subsequent
14 discussion.

15 Q Thanks. Some projects have proposed dry
16 cooling in a competitive environment; correct?

17 A Yes.

18 MS. POOLE: That's all my questions.

19 PRESIDING MEMBER MOORE: Thank you. Any
20 redirect?

21 MS. WILLIS: We just have one question.

22 REDIRECT EXAMINATION

23 BY MS. WILLIS:

24 Q Mr. O'Hagan, did you address, perhaps
25 not in -- in a detail quantitative analysis, but

1 did you address the relative costs of dry cooling
2 to wet cooling in your -- I'm sorry, in your Final
3 Staff Assessment?

4 A Well, I -- I did have an estimate that
5 dry cooling towers, and just speaking capital
6 costs are two to three times of wet cooling. And
7 that was based on estimates done in the previous
8 projects, based on previous caseload. Which I
9 won't go into detail on.

10 PRESIDING MEMBER MOORE: Well, okay.
11 Mr. Miller, I think that opens it back up for you,
12 if you want to ask your question. You just got
13 the segue straight into it.

14 MR. MILLER: I'll have to wait until
15 Counsel is -- okay. I'll just ask the question,
16 then.

17 RECROSS EXAMINATION

18 BY MR. MILLER:

19 Q What were those numbers?

20 A Well, we had an estimate from CalPine
21 for the Sutter Power Project that it was \$25
22 million above. Now, that number had varied in
23 CalPine's estimates because they were not
24 factoring in some related water supply and
25 wastewater discharge environmental impacts that if

1 they'd used wet cooling towers they would have to
2 factor in.

3 And the -- I can't -- I believe some of
4 the numbers -- I can't be exact on some of the
5 other projects, but it was in the range of about
6 12 to 15 -- 15 million more than wet cooling.

7 MR. MILLER: Thank you.

8 PRESIDING MEMBER MOORE: Ms. Poole.

9 MS. POOLE: Thank you.

10 PRESIDING MEMBER MOORE: On recross.

11 RECROSS EXAMINATION

12 BY MS. POOLE:

13 Q Those other projects that you just
14 referred to, including Sutter and whatever other
15 projects you're basing those cost estimates on,
16 are there differences between this project and
17 those projects?

18 A Yes, there is, both in geographical
19 location. Also in megawatts. I think the Sutter
20 was a little smaller. Some of the information was
21 estimates from Applicants that weren't proposing
22 to use dry cooling.

23 MS. POOLE: Thank you.

24 PRESIDING MEMBER MOORE: All right.

25 That's going to conclude Staff presentation, and

1 we will turn to the Intervenors.

2 Ms. Poole, the floor is yours.

3 MS. POOLE: Thank you. Perhaps we
4 should start by marking Dr. Fox's water testimony.
5 There's two documents. The first, which was filed
6 on February 25th, and is very short, and the
7 second, which is the supplemental testimony which
8 was filed on March 6th.

9 HEARING OFFICER WILLIAMS: Do you want
10 to mark them together as one exhibit?

11 MS. POOLE: That's fine.

12 HEARING OFFICER WILLIAMS: Okay. Let's
13 do that.

14 MS. POOLE: That's 38?

15 HEARING OFFICER WILLIAMS: Thirty-eight
16 -- 39.

17 PRESIDING MEMBER MOORE: Any objections?

18 MR. MILLER: No objection.

19 MS. WILLIS: None.

20 I missed Exhibit 38. What is that?

21 HEARING OFFICER WILLIAMS: The
22 objections.

23 MS. WILLIS: Oh, right. Thank you.

24 HEARING OFFICER WILLIAMS: Can we go off
25 the record for just a second.

1 (Off the record.)

2 MS. POOLE: Thanks.

3 Dr. Fox has been previously sworn.

4 TESTIMONY OF

5 DR. PHYLLIS FOX

6 called as a witness on behalf of CURE, having

7 previously been duly sworn, was examined and

8 testified as follows:

9 DIRECT EXAMINATION

10 BY MS. POOLE:

11 Q Dr. Fox, has a copy of your
12 qualifications and resume been previously
13 submitted in this proceeding?

14 A It has.

15 Q Then why don't we go directly to
16 summarizing your testimony if you would, please.

17 A My testimony basically concludes that
18 the power plant cooling policy applies, and is
19 binding on the Commission based on Policy 7558 and
20 the State Board Guidance Memo that is in Appendix
21 B of my supplemental testimony.

22 And since there was no information in
23 the record on which the Commission could make a
24 decision with respect to the requirement that
25 costs of dry cooling and parallel dry/wet cooling

1 systems be evaluated, I prepared a preliminary
2 cost analysis of dry cooling for this project over
3 the weekend, and that is Table 1 of my testimony.

4 And in preparing this estimate, I
5 attempted to overestimate rather than
6 underestimate, because on the weekend you don't
7 have access to vendors and other sources of
8 information that you would like to have in order
9 to make your estimate. So I attempted to
10 overestimate it. And since I prepared this
11 estimate, I have refined some of the numbers, and
12 the actual cost is roughly half of what I show
13 here.

14 The bottom line, instead of being .52
15 dollars, or 52 cents per megawatt hour, is more
16 like 25 cents per megawatt hour. And if you'd
17 like, I can introduce into the record an errata
18 that supports that.

19 And then what I'd like to do with the
20 rest --

21 MR. MILLER: I think we'd better just
22 quickly object that an errata at this hour is just
23 more -- more insult upon the previous one. We
24 would've liked to have at least had the errata
25 this morning.

1 PRESIDING MEMBER MOORE: Well, I think
2 what we'll do is we'll take the testimony as it
3 comes, and we'll just take it in and get comments
4 on it, and there won't be anymore additions to
5 what goes on.

6 So if there -- if it's unclear as to
7 what's being said, then we'll have to clarify it
8 in this forum right now. So that's well taken.

9 MR. MILLER: Thank you.

10 THE WITNESS: What I'd like to spend the
11 rest of the time doing is responding mainly to
12 comments made by other parties and their critique
13 of my testimony. And what I'd like to do first is
14 turn to Attachment A, which has the subject Power
15 Plant Cooling Policy 7558 in it.

16 And I would like to point you to page 4
17 of that policy, item 4, which Mr. Rowley spoke
18 about at length and complained about the fact that
19 I had omitted the first half of it from my
20 testimony. And the first half basically says
21 there is a limited supply of water resources in
22 California. Basin planning conducted by the State
23 Board has shown that there is no available water
24 for new allocations in some basins.

25 Projected future water demands, when

1 compared to existing developed water supplies,
2 indicate that general fresh water shortages will
3 occur in many areas of the state prior to the year
4 2000. Mr. Rowley argued that we are in the year
5 2000, and that prediction has not come true. And
6 I'd like to spend a few minutes addressing that.

7 First, I would like to tell you that in
8 the early seventies I was one of the chief authors
9 of the Basin Plans for Basin 5A, which is the
10 Sacramento Basin; Basin 5B, which is the Delta;
11 and Basin 5C, which is the San Joaquin Basin. I
12 was around when this was written, and I did a lot
13 of the water supply analyses that this policy was
14 actually based on. And I have been involved in
15 California water ever since then.

16 I was a witness and presented extensive
17 testimony for the State Water Contractors in the
18 1987 Bay Delta hearings. I did the same in the
19 Phase 2 hearings in the early nineties,
20 representing the Department of Water Resources,
21 who is the operator of the State Water Projects.
22 And currently, I represent the California Urban
23 Water Agencies, which is basically a trade
24 organization of the largest water suppliers in the
25 state, as well as the Metropolitan Water District

1 of Southern California and the CalFed activities.

2 And I can tell you from that long
3 history of working on California water that this
4 prediction has certainly come true. The reason
5 that CalFed exists is because there is not enough
6 water to go around. And many of you will remember
7 in the droughts that occurred starting in '77, and
8 then the more extended drought from '89 to '92,
9 there were shortages throughout the state.

10 The State Water Project itself, which
11 ultimately supplies the water that this project
12 would use, was never fully built because the
13 peripheral canal was not built. The state -- the
14 State Water Project was originally designed to
15 deliver roughly four and a half million acre/feet
16 of water. Because of the controversy over the
17 peripheral canal, the full capacity of the SWP was
18 never realized, and its current capacity is about
19 2.2 million acre/feet per year.

20 There are many more contracts in place
21 for State Water Project water than the State Water
22 Project is able to deliver. And all contracts
23 issued by the SWP are interruptible contracts.
24 It's not a firm supply. The contracts have to be
25 renewed from year to year. And if you have a

1 drought and there's shortages, all of the users
2 simply get cut back.

3 So I'd like to point out to you that
4 page 4 of this policy, item 4, has indeed come to
5 fruition. And water, in fact, is one of the most
6 controversial issues in California.

7 As to the other comments that Mr. Rowley
8 made about the interpretation of this policy, I
9 think the policy says what it says, and you can
10 all read, and I don't want to belabor the point.
11 But the one thing I would like to point out is you
12 can't look at this policy in isolation. You have
13 to look at this policy in conjunction with
14 Attachment B, which is the State Board's
15 Guidelines on the significance of this policy.
16 and those guidelines, the guidance memo in my
17 attachment B, dated January 7th, 1986, is clear
18 that this policy is binding on the Energy
19 Commission and other agencies.

20 I'd like to spend the rest of the time
21 talking about the dry cooling estimates in Table 1
22 to my supplemental testimony. You've heard a lot
23 of discussion of what the real difference is
24 between the cost of using dry cooling and wet
25 cooling. You have to be careful when you consider

1 the numbers that have been thrown out, because in
2 making an accurate comparison you have to include
3 all of the components of the wet system when you
4 compare it to the dry system. And a wet system
5 consists of much more than the condenser, the
6 circulating water pumps, and the tower.

7 Every project has different additional
8 components associated with wet cooling. For
9 example, in this project, in addition to the
10 condenser, the circulating water pump, and the wet
11 tower, you have a 9.8 mile long 16-inch diameter
12 water supply pipeline that brings the water from
13 West Kern Water District to the site.

14 You have a four and a half, roughly,
15 mile long wastewater pipeline that takes the
16 wastewater from the plant to the injection well
17 field in the southern part of the oilfield. You
18 have the injection wells themselves. You have
19 treatment for the cooling tower makeup. You have
20 treatment for the boiler feed water. You have the
21 costs of permitting the injection wells, for
22 example.

23 In other projects, those components,
24 which can add a significant amount of money to the
25 wet cooling side of it, are different. For

1 example, in the case of Sutter, the original
2 proposal in Sutter was to pump groundwater onsite,
3 and to discharge their wastewater into a nearby
4 slough. So there was no need for a 9.8 mile
5 pipeline for water supply, or a 4.5 mile pipeline
6 to get rid of the wastewater.

7 So when -- when you hear people talk
8 about cost differential, the first thing you
9 should do is try to pin down exactly what is
10 included in those cost differentials. In my
11 experience, if you just compare the cooling -- the
12 wet cooling portion, which is the cooling tower,
13 the circ pumps, and the condenser, with the cost
14 of an air cooled condenser, the cost differential
15 just for that cooling portion of it is in the six
16 to \$10 million range. And that's the numbers that
17 people that seriously look at dry cooling use in
18 their evaluation.

19 And I have costed out these systems for
20 a number of projects, and that's the range in
21 which I have always seen that differential fall.
22 And then when you start adding to the wet cooling
23 side of it, that differential, the six to \$10
24 million increment, gets smaller.

25 The other -- one of the other major

1 points that Mr. Rowley made about this estimate is
2 he claims that there would be a 21 megawatt hit
3 based on 6.1 inch of mercury absolute back
4 pressure on the steam turbine.

5 The first thing you should realize about
6 that is the 6.1 inches of mercury back pressure is
7 what you would experience on a hot -- on one -- on
8 the hottest summer day. You wouldn't experience
9 that kind of back pressure or that kind of power
10 loss for 8,424 hours per year, which is the
11 proposed operating hours for this facility,
12 assuming 15 days of down time. Most of the time,
13 the power loss would be much smaller.

14 And what -- what I showed in my table,
15 in Table 1, is the annual average lost, which
16 would be five megawatts per turbine, or ten
17 megawatts total, compared to Mr. Rowley's 21
18 megawatts, which is for a peak case that would
19 occur, at most, eight hours a day for 122 days a
20 year. But when you average it out over an entire
21 year, the loss is much more modest.

22 He states that the power loss, the
23 parasitic power loss for operating the fans -- and
24 you realize that a dry system is nothing more than
25 -- it's like the radiator in your car. You've got

1 hot water running through tubes, and you've got a
2 fan that's blowing air across those tubes, just
3 like in a car. And you have to provide power to
4 operate the fans. Well, the amount of power
5 required to operate fans for this kind of
6 facility, based on three vendor quotes, is three
7 megawatts, not five. It's three megawatts.

8 And the last thing I would like to point
9 out in Table 1, the last two lines, there's two
10 items at the end which make up the bulk of the
11 operating cost for a dry system. I've listed fuel
12 cost and reduced energy output, which is really a
13 reduction in profits. And those two line items
14 are actually the same thing. It's double
15 counting, in other words.

16 What happens with a dry cooling system
17 is on hot days you get an increase of back
18 pressure on your steam turbine, which reduces your
19 power output. And to offset that reduction in
20 power output, what you would normally do is
21 increase the firing of your duct burners to offset
22 the loss. So you can offset the loss in power by
23 simply firing the duct burners more, so you either
24 have an increase in fuel cost due to increased
25 firing of the duct burners to offset the loss in

1 power, or you make a decision to take the capacity
2 hit and not wrap up your fuel to the duct burner.
3 It's either/or.

4 In an effort to make a worst case
5 analysis here, I included both of these costs in
6 here, but they're actually double counting. And
7 you have either one or the other. So actually,
8 all of the comments that were made about the
9 megawatt power loss are irrelevant, because that
10 number should actually be zero here, because in
11 most cases you -- and particularly in the summer,
12 when you're operating at peak capacity, you'd want
13 to increase your fuel and maximize your power
14 output.

15 As to the capital recovery factor of
16 .16, which is two-thirds of the way down the
17 table, that Mr. Rowley commented that they would
18 not reveal their position on that because it was
19 confidential information, I would just like to
20 point out that that .16 was used by High Desert in
21 their analyses of dry cooling, and it was also
22 used by Three Mountain Power in their analyses of
23 dry cooling. Since two applicants used it, I
24 thought it would be pretty fair to adopt it
25 myself.

1 Give me a few minutes here, I want to
2 look and see if there's other things I want to
3 comment on.

4 (Pause.)

5 THE WITNESS: As to the applicability of
6 reverse osmosis and whether or not you can
7 actually treat some of these other waste streams
8 that were discussed. For example, we had a
9 discussion this morning of produced water and
10 saline groundwater. And I believe that Mr. Rowley
11 testified to the fact that reverse osmosis would
12 not be appropriate.

13 I have actually taken the composition of
14 Tulare Formation Groundwater, reported in Appendix
15 J of the AFC, which is the UIC application, and it
16 contains a complete analysis of Tulare Formation
17 Groundwater. I've actually given that to the
18 largest vendor of zero discharge systems in the
19 world, and asked them what they thought. And they
20 provided me a cost estimate, no problem treating
21 it at all, and it's actually quite economic.

22 RO, in fact, does apply, and it would be
23 quite a bit cheaper to use onsite groundwater
24 instead of West Kern Water District, and treat it
25 to cooling tower and boiler levels, than it would

1 be to use dry cooling for this project, for
2 example.

3 In my analysis I assumed that onsite
4 groundwater would be used. And I believe there
5 was some discussion by Mr. Rowley that, based on
6 cross, that the best place to get the groundwater
7 is from the source wells in the southern part of
8 the oilfield, and that the groundwater at the site
9 is a thousand feet deep, or more. I assumed
10 onsite groundwater would be pumped, and I assumed
11 it would be pumped from 1500 feet. So I think the
12 estimate that I have in here already takes that
13 into consideration, and it's quite conservative.

14 BY MS. POOLE:

15 Q Dr. Fox, on your Table 1 you use a
16 number of \$1.25 per 100 cubic feet as the West
17 Kern Water District's charges. Is that the charge
18 that West Kern Water District currently charges
19 Occidental in its contract for Elk Hills?

20 A Yes, it is. They have an existing
21 contract, and the price in that contract is \$1.25
22 per hundred cubic feet, which works out to about
23 \$544 an acre/foot.

24 MR. MILLER: Could we have the --
25 understand the relevance of that question? It

1 seems to me we're getting a little far afield
2 here.

3 MS. POOLE: We're talking about numbers
4 that are contained in the table here.

5 MR. MILLER: And the relevance --

6 MS. POOLE: The basis of the analysis.

7 MR. MILLER: Okay. The relevancy of the
8 cost to OEHI for its current contract if what?

9 MS. POOLE: Because that's -- well, if
10 you'll let me ask my follow-up question --

11 MR. MILLER: Well, I guess I'll file an
12 objection, and then we'll see where it goes.

13 PRESIDING MEMBER MOORE: I'm waiting to
14 see, too. Why don't we let her ask her question,
15 and we'll find out.

16 BY MS. POOLE:

17 Q My follow-up question was, has that
18 charge been confirmed by your discussions with the
19 West Kern Water District agency personnel, as the
20 current charge for industrial users?

21 A Yes. I called the West Kern Water
22 District and asked what they charge large
23 industrial users like Elk Hills and La Paloma for
24 their water, and I was told \$1.25 per hundred
25 cubic foot.

1 Q And, Dr. Fox, are the facts contained
2 in your testimony true and correct to the best of
3 your knowledge?

4 A They are.

5 Q And are the opinions contained in your
6 testimony based on your best professional
7 judgment?

8 A They are.

9 MS. POOLE: Dr. Fox is tendered for
10 cross.

11 CROSS EXAMINATION

12 BY MR. MILLER:

13 Q I'd like to ask first about -- returning
14 to the RO, and also perhaps some other issues on
15 Table 1. You said that you had gotten a quote
16 from the largest vendor of such systems. Could
17 you tell us who that was?

18 A RCP.

19 Q And could you tell us who you talked to?

20 A I can't recall his name right now.

21 Q And do you recall getting a cost
22 estimate?

23 A Yes.

24 Q And what was that? Do you remember the
25 dollar figure?

1 A I -- I don't remember off the top of my
2 head.

3 Q You -- you testified that it would be
4 very reasonable. Did you get -- you didn't get a
5 number, though?

6 A I have a number, but I don't -- I just
7 don't know off the top of my head. There's so
8 many numbers floating around here.

9 Q And you -- but you didn't get a number
10 from him?

11 A I did get a number from him. Yes.

12 Q But you can't remember what it was?

13 A No.

14 Q And when did you talk to him?

15 A Over the last two or three days.

16 Q Like yesterday?

17 A Yeah, like yesterday.

18 Q Or it could've been the day before?

19 A Yeah. Both days.

20 Q Or maybe last Friday?

21 A No, not last Friday.

22 Q Last Saturday, or so?

23 A No, I talked to him for the first time
24 -- let's see, this is Thursday -- Tuesday.

25 Q I see. You referred to the attachment

1 B, I believe it is, to your testimony, which is a
2 memorandum dated January 9 -- 7, 1986, from Andrew
3 Sawyer to William Atwater and Craig Wilson at the
4 State Water Board. I'd like to turn to that for a
5 second.

6 The memo states, in paragraph 3, its
7 applicability. Could you read that for us?

8 A Paragraph 3, on the first page?

9 Q Just before the subtitle A, current
10 state board adopted policies.

11 A Oh, the one liner?

12 Q Yes.

13 A This memo sets forth those State Board
14 policies which have been adopted as part of State
15 Policy for Water Quality Control.

16 Q All right. And the list which follows,
17 what does that contain?

18 A The list which follows --

19 Q The subtopic heading, current State
20 Board adopted policies.

21 A Right.

22 Q What does that contain?

23 A Contains a list of current State Board
24 adopted policies.

25 Q Right. And so it's -- it's fair to say

1 that this memorandum wasn't directed solely to the
2 inland water power plant cooling policy; is that
3 correct?

4 A No, it covers five separate policies.

5 Q Right. And each of those policies may
6 have different applicabilities. Of course, they
7 had all different subjects, completely different
8 than the inland policy.

9 A Right. They're five different policies.

10 Q Right. And the -- apparently it would
11 seem, upon a reading of the memo, that this was in
12 response to some confusion as to about which
13 policies were considered state policies of broader
14 application. Is that correct?

15 A I believe so, yes.

16 Q So the conclusion one might draw from
17 this is simply this was a legal analysis of all of
18 the state policies that might be candidates for
19 this, rather than just to the inland power plant
20 cooling policy.

21 A Yes, it's broader than just the inland
22 cooling policy.

23 Q Okay. Then turning to the --

24 PRESIDING MEMBER MOORE: Mr. Miller, let
25 me see if I can understand where things are

1 slipping out to. I should learn never to have a
2 side conference with my aide.

3 Ms. Poole, do you still have the floor?

4 MS. POOLE: No. I -- I passed --

5 (Laughter.)

6 MR. MILLER: I'm doing my cross
7 examination.

8 PRESIDING MEMBER MOORE: Okay. I -- I
9 thought Ms. Poole still had another question. I
10 -- that's what I was expecting, was that we were
11 going through part of your last question. Excuse
12 me, Mr. Miller.

13 MR. MILLER: No problem.

14 PRESIDING MEMBER MOORE: Please
15 continue.

16 MR. MILLER: Thank you.

17 BY MR. MILLER:

18 Q Going back to the policy then, itself.
19 Whatever is contained in the policy is what would
20 be of statewide applicability; correct?

21 MS. POOLE: Can we just clarify which --
22 there are several policies --

23 MR. MILLER: I'm --

24 MS. POOLE: -- being referred to here.

25 MR. MILLER: -- I'm talking -- well,

1 there's only one that we've been -- at issue here,
2 that I know of. That would be Attachment A to her
3 testimony, the policy inland water -- the 75-58,
4 of course.

5 BY MR. MILLER:

6 Q So among those five -- among the
7 policies that would be of statewide applicability,
8 this was one of them. And so we would take the
9 provisions of this, whatever they are, and they
10 would be statewide applicability; correct?

11 A Correct.

12 Q And among those provisions would be the
13 scope of the policy. And it's -- is that correct?

14 MS. POOLE: What -- what do you mean --

15 BY MR. MILLER:

16 Q Well, let's say the requirements for
17 implementation would of course be part of the
18 policy. Is that correct?

19 A I -- you're getting into legal areas
20 that I'm --

21 Q Well, you --

22 A -- uncomfortable --

23 Q I'm sorry, but you stated a legal
24 conclusion in your testimony that this was binding
25 on the California Energy Commission.

1 A Well, that's because it says right here
2 it had a binding effect.

3 Q All right. And what did -- what is it
4 that has binding effect?

5 A The five listed policies.

6 MS. POOLE: This attachment speaks for
7 itself. This is what Dr. Fox is relying on.

8 BY MR. MILLER:

9 Q All right. And among the provisions of
10 this attachment are directions for implementation.
11 Is that correct?

12 A I -- I don't -- I don't know.

13 Q Well, let's look at page 5,
14 implementation.

15 A Page 5. Okay.

16 Q There's directions in the implementation
17 to do various things. Paragraphs 1 through 6.

18 MS. POOLE: Excuse me. What -- are we
19 on page 5 of Attachment B?

20 MR. MILLER: Of Attachment A. My
21 policy.

22 MS. POOLE: Oh.

23 THE WITNESS: Page 5 of Attachment A.
24 Okay.

25 ///

1 BY MR. MILLER:

2 Q Actually, let's -- let's skip to an
3 earlier one. Let's look at page 5, principles.

4 A Okay.

5 Q So if you read the -- one of the
6 principles, it would state, it is the Board's
7 position; is that correct?

8 A That's what it says. It is the Board's
9 --

10 Q In paragraph 2 it says, where the Board
11 has jurisdiction. Is that correct?

12 A That's correct.

13 Q And in paragraph 3, it says, in
14 considering issuance of a permit or license to
15 appropriate water for power plant cooling, the
16 Board will consider. Is that correct?

17 A That's correct.

18 Q And we could go on and on. But let's go
19 to the implementation section on page 7. In
20 paragraph 1 under implementation, it states that
21 the Regional Water Quality Control Boards will
22 adopt. Is that correct?

23 A That's correct.

24 Q Paragraph 4, it says the State Board
25 shall include a term. Is that correct?

1 A Correct.

2 Q And in the paragraph 6, states
3 applications to appropriate inland waters. That's
4 correct?

5 A That's correct.

6 Q And that would be appropriation
7 application to the State Board; is that correct?

8 A Yes.

9 Q And therefore, is there anything in this
10 policy that speaks directly to obligations of the
11 California Energy Commission?

12 MS. POOLE: I'm going to object here,
13 because this policy and the document, Attachment B
14 that Dr. Fox is relying on, speak for themselves.

15 MR. MILLER: Dr. Fox included in her
16 testimony a conclusion that this policy was
17 binding on the Energy Commission, and in several
18 --

19 MS. POOLE: And she --

20 MR. MILLER: -- instances --

21 MS. POOLE: -- cited to Attachment B.

22 MR. MILLER: -- several instances
23 asserted that the Commission shall do certain
24 things because of the policy. Well, it seems to
25 me it's totally fair game.

1 PRESIDING MEMBER MOORE: Well, actually,
2 the question -- Ms. Poole, I'm going to override
3 your objection in this case, because the question
4 Mr. Miller asked was directed to the paragraphs
5 that he was reading out of A. Dr. Fox was
6 answering those, and he asked her a direct
7 question, it was related to A and not B. And so
8 I'm going to ask her to answer the question that
9 he asked.

10 I believe what you noted about what she
11 testified is on the record, and clear to us. But
12 that's not the question he asked. So, Dr. Fox,
13 can I ask you to answer the question he asked, and
14 I take note of the fact that your testimony was
15 directed to B, instead of A.

16 THE WITNESS: Maybe you could repeat the
17 question.

18 BY MR. MILLER:

19 Q The question is, is do you find anything
20 in this implementation section that directs the
21 California Energy Commission to do anything?

22 HEARING OFFICER WILLIAMS: Counsel, why
23 don't we be very careful, because we're talking
24 about several different --

25 MR. MILLER: I'll repeat --

1 HEARING OFFICER WILLIAMS: -- sections,
2 so --

3 MR. MILLER: -- where it is.

4 HEARING OFFICER WILLIAMS: -- to the
5 extent that we can, let's be very specific about
6 what -- which section of the testimony --

7 MR. MILLER: Very well.

8 HEARING OFFICER WILLIAMS: -- you're
9 referring to.

10 MR. MILLER: That's a point well taken.

11 BY MR. MILLER:

12 Q Page 7 of Attachment A, the Policy 7558.
13 There's a subtopic heading beginning
14 implementation, with six subparagraphs which we've
15 just been through most of them.

16 My question is, is there anything in the
17 implementation section of the policy that directs
18 the California Energy Commission to do anything?

19 A Well, under the principles on page 6,
20 item 7, it says, furthermore, Section 25601D --

21 HEARING OFFICER WILLIAMS: Dr. Fox,
22 could you --

23 THE WITNESS: Sorry.

24 HEARING OFFICER WILLIAMS: -- could you
25 do the same thing? Let's -- just take a moment

1 and clearly specify what we're talking about,
2 because there are several attachments here to the
3 document, and I think it's important that we're
4 all able to follow along. And to the extent that
5 you could just really be clear on -- on what
6 you're referring to, that would help out.

7 PRESIDING MEMBER MOORE: So section 6,
8 page --

9 MR. MILLER: I would like to further
10 request that she answer my question, not offer
11 another --

12 PRESIDING MEMBER MOORE: I understand.
13 Well, I -- let's go back and refocus, and Mr.
14 Miller's asked the question based on -- repeat the
15 section that you're reading out of.

16 MR. MILLER: I am reading from the
17 section entitled -- of the policy entitled
18 implementation, which has six directive
19 paragraphs, which we've already discussed.

20 PRESIDING MEMBER MOORE: And did you go
21 through every paragraph?

22 MR. MILLER: Well, I didn't go through
23 every single one, but I think I went through four
24 out of six. Let's do the others, if you'd like.
25 Paragraph 2 states the discharge requirements

1 shall contain. That doesn't refer to the Energy
2 Commission, does it?

3 HEARING OFFICER WILLIAMS: I think she's
4 already answered that part of it.

5 MR. MILLER: All right. Then we know
6 where we are.

7 HEARING OFFICER WILLIAMS: Her answer
8 was that no, there is nothing.

9 MR. MILLER: I'll just repeat the
10 question, one last time.

11 BY MR. MILLER:

12 Q Does this section of the Inland Water
13 Power Plant Cooling Policy direct the Energy
14 Commission to do anything, speaking now of the
15 section entitled implementation, pages 6 and --
16 excuse me, 7 and 8 of the policy.

17 A The section labeled implementation on
18 page 7 does not directly direct the Energy
19 Commission to do anything. However, this section,
20 in combination with Appendix B, which makes this
21 binding on the Energy Commission, coupled with
22 page 6 of Policy 7558, item 7, does clearly direct
23 the Energy Commission to make certain studies.

24 It says, I quote, furthermore, section
25 25601D --

1 HEARING OFFICER WILLIAMS: Where are you
2 reading from?

3 THE WITNESS: Pardon?

4 HEARING OFFICER WILLIAMS: Where are you
5 now?

6 THE WITNESS: I'm on page 6 of
7 Attachment A to my testimony, which is the Policy
8 7558. It's item 7 down there, on page 6, midway.

9 HEARING OFFICER WILLIAMS: Okay.

10 THE WITNESS: Furthermore, section
11 25601D of the Warren-Alquist Energy Resources,
12 Conservation and Development Act, directs the
13 Commission to study, quote, expanded use of
14 wastewater as cooling water and other advances in
15 power plant cooling, end of quote.

16 And section 462 of the water --
17 wastewater reuse law directs the Department of
18 Water Resources to -- and so on and so forth.

19 So my interpretation of Attachment A and
20 Attachment B is that the cooling policy is binding
21 on the Energy Commission.

22 BY MR. MILLER:

23 Q So the documents don't speak for
24 themselves. They require interpretation?

25 A I think everything requires

1 interpretation.

2 Q And that's yours. All right.

3 So what you've said, then, is that the
4 policy directs the Commission to undertake a
5 study. Correct?

6 A The -- yes.

7 Q And there is no reference to the siting
8 process of the Commission, or permits or licenses
9 issued by the Commission; is that correct?

10 A I don't believe so, no.

11 Q Thank you.

12 In your testimony, you state at one
13 point that people who seriously have looked at dry
14 cooling find between a six to \$10 million
15 difference in capital costs. Could you tell us
16 who those people are?

17 A Certainly. I have estimated -- made
18 estimates myself for a number of projects, and I
19 have also had discussions with other developers
20 who have been looking at using dry cooling
21 themselves.

22 Q And who would those be?

23 A PG&E.

24 Q And who would that be at PG&E that
25 you've spoken to?

1 A Al Williams.

2 Q And they have -- and you're stating that
3 he said -- which, of course, is hearsay, but we'll
4 pass that for the moment -- that the difference is
5 six to \$10 million?

6 A That's correct. That's just the cooling
7 portion of it. It doesn't include --

8 Q Just the cooling portion of it.

9 A -- the ancillary, you know, wastewater
10 treatment, water supply, pipelines, storage tanks,
11 things like that. The cooling only.

12 MS. POOLE: Let me clarify. That's PG&E
13 Generating, not PG&E, the utility.

14 BY MR. MILLER:

15 Q And so it's just for the cooling. Your
16 estimate in Table 1 shows a difference of six, so
17 you picked the low end of that, did you?

18 A Well, the estimate in Table 1 that shows
19 a difference of six includes other ancillary
20 facilities. The six to ten that I'm claiming is
21 just on the cooling portion of it. So you'd have
22 to just separately add up the cooling portion of
23 it to make the comparison.

24 MR. MILLER: All right. We'll cover
25 that later.

1 I have no further questions.

2 HEARING OFFICER WILLIAMS: Staff?

3 MS. WILLIS: Thank you.

4 CROSS EXAMINATION

5 BY MS. WILLIS:

6 Q Just one more question on the policy
7 that we've been discussing. On page 2 of your
8 supplement testimony, the second paragraph from
9 the bottom, it states, this demonstration must
10 include an analysis of the cost and water use
11 associated with the use of alternative cooling
12 facilities employing dry or wet/dry modes of
13 operation.

14 And you refer to page 6 of your
15 Attachment A. And I believe the quote is from
16 number 6 on page 6, beginning with the sentence,
17 this -- study is associated with power plants
18 should include an analysis.

19 Where in that sentence, or where in this
20 policy does -- is the word "must"?

21 A Okay. What --

22 Q That was on page 6, Attachment A, that
23 you quote from, on your testimony, page 2.

24 A I believe that's -- that's the same line
25 that Mr. Rowley addressed previously, and it says

1 should, not must.

2 Q So, in other words, it's not a definite
3 requirement, it's a "should", not "must".

4 A Yeah, it's a should.

5 Q Okay. You've been using the word
6 requirement.

7 I also would like to go back and I'm not
8 sure if this was what Mr. Miller's question was
9 earlier. You stated in your testimony that you've
10 costed out dry cooling projects. Is this more
11 than what you've done for PG&E?

12 A Are you asking which other projects I've
13 done cost estimates for?

14 Q What I'm asking is, are there other
15 projects, other than the one you mentioned
16 earlier?

17 A Yes.

18 Q And what projects were those?

19 A I prepared a dry cooling cost estimate
20 for High Desert, which we submitted. And I have
21 also prepared such a cost estimate for Three
22 Mountain Power.

23 Q And have you costed out any cooling
24 systems that were actually installed, using your
25 figures?

1 A I was involved in the Sutter case. Yes.

2 Q Can you explain? I'm not sure what you
3 mean. I'm asking if the figures that you used
4 were relied on and used in -- and it's actually
5 been built?

6 A Not built yet, no.

7 Q So you don't have any actual experience
8 of costing out a project that's been built?

9 A No.

10 Q Okay. On Table 1, and this may also be
11 -- have been asked, you refer to a vendor quote
12 quite a bit. Is that one vendor, more than one
13 vendor, and can you explain those terms?

14 A Sure. What would you like me to do?

15 Q Maybe you can define what -- who -- was
16 that one vendor that you talked with?

17 A No. I -- I basically talked with all
18 three major cooling tower vendors.

19 Q And which vendors were those?

20 A Hamon, Backle-Durr -- B-a-c-k-l-e-
21 hyphen-D-u-r-r, and GEA.

22 Q And are those quotes included anywhere
23 in your testimony?

24 A No, I did not attach them.

25 Q And when did you acquire those quotes?

1 A The quotes that are cited here are
2 quotes that I had previously gotten for other jobs
3 that I have worked on.

4 Q So those quotes were obtained prior to
5 Staff's filing their supplemental testimony last
6 week?

7 A They were for other projects. The
8 quotes I -- after I filed this testimony I have
9 since got quotes for this project, which I
10 obtained on Tuesday and Wednesday of this week,
11 that confirm it.

12 Q And -- and what other projects were
13 those for?

14 A High Desert and Three Mountain.

15 MS. WILLIS: No other questions.

16 PRESIDING MEMBER MOORE: Ms. Poole,
17 redirect?

18 MS. POOLE: Yes.

19 REDIRECT EXAMINATION

20 BY MS. POOLE:

21 Q Dr. Fox, the -- the quotes that you
22 obtained this week for this project, do they
23 confirm the information that's contained in Table
24 1?

25 A Yes, they do. As I stated at the

1 beginning of my testimony, once I got vendor
2 specific quotes for this job, the actual costs
3 came in about half of what I had stated here.

4 MS. POOLE: Thank you. That's all.

5 PRESIDING MEMBER MOORE: Recross.

6 MR. MILLER: Yes, I do.

7 RE CROSS EXAMINATION

8 BY MR. MILLER:

9 Q You indicated a moment ago that you had
10 been involved in the Sutter project?

11 A Yes.

12 Q Do you recall testifying in this case
13 with regard to ammonia issues, that you were not
14 involved with the Sutter project?

15 A I -- I can answer that. I testified
16 that I had worked on the water issues, but not any
17 others. I was involved only in the water issues
18 on the Sutter case.

19 Q You were not involved in, I take it --
20 or were you, in the La Paloma case, in which CURE
21 was --

22 A No, I was not.

23 MS. POOLE: We're going far beyond the
24 scope of redirect here.

25 MR. MILLER: Okay. Thank you.

1 PRESIDING MEMBER MOORE: Recross on the
2 -- on the redirect?

3 MR. MILLER: No, thank you. I do have
4 rebuttal. No, thank you. I do have some rebuttal
5 testimony.

6 PRESIDING MEMBER MOORE: Staff?

7 MS. WILLIS: No.

8 PRESIDING MEMBER MOORE: None. All
9 right. Thank you, Ms. Poole. Thank you, Staff.
10 Thank you, the Applicant.

11 Mr. Miller.

12 MR. MILLER: Commissioner, if you would
13 indulge us we would like to have the opportunity
14 for very brief rebuttal testimony.

15 PRESIDING MEMBER MOORE: All right, I'll
16 indulge that.

17 MR. MILLER: All right. I would just
18 like to give Mr. Rowley an opportunity to comment
19 on a couple of points that were included in Dr.
20 Fox's testimony.

21 TESTIMONY OF

22 JOSEPH ROWLEY

23 called as a witness on behalf of the Applicant,
24 having previously been duly sworn, was examined
25 and testified further as follows:

1 DIRECT EXAMINATION

2 BY MR. MILLER:

3 Q There was some reference to wet cooling
4 issues in Table 1, and the need to account for
5 those components. I'd like to ask Mr. Rowley to
6 comment on that.

7 A Yes. The -- the commentary that I made
8 on Table 1 previously did include the water supply
9 pipeline cost, pump costs, stationary
10 improvements, and so forth, that are in the left-
11 hand column. So I -- I did not leave those
12 numbers out. I thought I heard an implication
13 that perhaps that I did, but I did not.

14 Also, on that same table, as I
15 understand it, the bottom line number, rather than
16 being .52, according to Ms. Fox is now .25, and
17 that the -- and since the differential in total
18 annual cost was \$2 million -- in other words, the
19 difference between 5.6 and 7.6 -- that the
20 differential in the revised would then be \$1
21 million.

22 PRESIDING MEMBER MOORE: You're --
23 you're making a statement. You're not asking a
24 question.

25 THE WITNESS: It seems like a logical

1 presumption.

2 PRESIDING MEMBER MOORE: Well, I
3 appreciate -- we're relying on your expertise from
4 this testimony, so --

5 MS. POOLE: And I do object, because I
6 believe that mischaracterizes Dr. Fox's testimony.

7 THE WITNESS: So Dr. Fox did not reduce
8 the .52 to .25? The bottom line?

9 MS. POOLE: Well, we're done with
10 testimony.

11 THE WITNESS: All right.

12 PRESIDING MEMBER MOORE: No, she -- she
13 did. If you want to -- if you want to rebut that,
14 it's fair game. I'm allowing that rebut, but
15 you're going to have to make it as a statement,
16 and just say I believe that.

17 THE WITNESS: All right. The
18 significance is that since the total annual cost
19 differential is now \$1 million, it is simply
20 inconsistent with other -- other estimates of the
21 difference, of the differential in wet versus dry.

22 And that -- another item that was stated
23 is that reduced energy output was simply a
24 reduction in profits. It's actually a reduction
25 in the opportunity to earn a return on investment.

1 But more than that, it's also a reduction in
2 energy output when the customers need the energy
3 most; that is, on a hot summer day, when loads are
4 high.

5 Also, as far as the applicability of --
6 of RO on Tulare Groundwater, there's a comment on
7 my statement as to the applicability of that RO,
8 and -- I guess I'm just restating that if you use
9 RO it does not result in zero discharge. There is
10 still a wastewater stream.

11 And that concludes my rebuttal comment.

12 PRESIDING MEMBER MOORE: I'll offer the
13 Staff the opportunity to rebut.

14 MS. WILLIS: No, no rebuttal.

15 PRESIDING MEMBER MOORE: I'll offer the
16 same opportunity to Ms. Poole.

17 MS. POOLE: May I have just one moment.
18 Okay.

19 PRESIDING MEMBER MOORE: In the form of
20 rebut.

21 MS. POOLE: Right.

22 MR. MILLER: I think we're talking about
23 cross on rebuttal, aren't we?

24 PRESIDING MEMBER MOORE: Well --

25 DR. FOX: Can I ask questions, or do I

1 get to talk?

2 DIRECT EXAMINATION

3 BY MS. POOLE:

4 Q No. No, you're talking.

5 A I'm talking. Okay, I'm talking.

6 First, the reduction of the bottom line
7 figure of .52 -- 52 cents per megawatt hour to 25
8 cents per megawatt hour could be due to two
9 things. It could be due to a change in capital
10 costs, or it could be due to a change in operating
11 costs.

12 Mr. Rowley is assuming that the change
13 is due to solely the capital costs, which is not
14 the case. Most of the change is actually due to
15 operating costs, and much of it is due to dropping
16 out the 1.4 million for the lost revenue from the
17 reduction in capacity.

18 Actually, I -- I made a number of
19 changes to that table, some of them up and some of
20 them down, the net effect of which was halving the
21 bottom line.

22 And then, second, with respect to losing
23 capacity at the time that you need it most, and
24 that actually is true, when it gets hot you have
25 the highest back pressure which causes the largest

1 reduction in output. You can offset that with
2 your duct burners. But notwithstanding that, one
3 of the ways that that is commonly dealt with is by
4 using a parallel dry/wet cooling system instead of
5 a 100 percent dry cooling system.

6 The parallel system allows you to
7 operate a small cooling tower during hot summer
8 days, when the electricity demand is peak, without
9 taking any hit on the capacity end, and then the
10 rest of the time when you don't have high
11 temperatures and your back pressure is moderate,
12 you would operate on dry cooling.

13 Which points out the importance of doing
14 a thorough analysis, which has not been done here.
15 I mean, there should've been an analysis done of
16 dry/wet cooling, dry cooling, and -- and different
17 options of wet cooling, like, for example, wet
18 cooling using Tulare Groundwater and a zero
19 discharge system. There's a lot of different ways
20 to crack it. And here, we don't have anything in
21 the record.

22 And what I attempted to do was what I
23 thought would be a worst case cost option, one
24 that would be higher than any other alternatives
25 that you might want to look at. There's a lot of

1 other alternatives that are cheaper that you could
2 look at, that would address some of these problems
3 like the capacity hit in the summer. Parallel
4 dry/wet cooling does that.

5 MR. MILLER: I need to -- I need to
6 interrupt for a second. This has gone way beyond
7 rebuttal to new testimony.

8 PRESIDING MEMBER MOORE: Actually, it --
9 it has, and, Dr. Fox, while interesting, I'm going
10 to ask you to stay -- rebut --

11 THE WITNESS: Rebut. Okay.

12 PRESIDING MEMBER MOORE: -- things that
13 might have been said that you feel were in error,
14 or ought to be clarified.

15 THE WITNESS: But what triggered that
16 was the comment about --

17 PRESIDING MEMBER MOORE: I know what
18 triggered it.

19 THE WITNESS: -- reverse osmosis.

20 PRESIDING MEMBER MOORE: I know what
21 triggered it. Let's -- let's hold to things that
22 you contend are in error or need to be clarified.

23 MR. MILLER: And directed to what he
24 just testified on specifically, please.

25 PRESIDING MEMBER MOORE: Correct. I

1 think that's implicit in the rules, but --

2 THE WITNESS: I guess I don't have
3 anything else to say, then.

4 PRESIDING MEMBER MOORE: All right.

5 Well, with that, I'm going to bring this back to
6 the dais, and I'm going to tell you that on this
7 item I'm going to leave the record open. The
8 reason, and I feel like I'm -- I'm passing out a
9 bad test on my -- one of my classes. I need
10 something back from you.

11 I think that the way this has played
12 itself out, it is less a question surrounding the
13 term economically unsound, specifically in the
14 context of dry versus wet cooling, dealt with in
15 an unsatisfactory way, at least as far as the
16 record goes.

17 Now, I'm -- in a sense, I'm a little bit
18 hamstrung that I can't go back and recreate what
19 should've been a more robust record. I can't do
20 it at this point. But I can ask you to submit a
21 brief to me, and I'm going to ask all parties to
22 do that. And I want you to address the question
23 of just what is economically unsound. What does
24 that mean in the context of wet versus dry
25 cooling.

1 I suspect that that brief -- which can
2 be brief, by the way -- ought to include and
3 address the factors that you think are relevant or
4 illustrative, and include sample comparative
5 costs. I'm not asking for proprietary numbers,
6 but I am asking for some explanatory and
7 illustrative figures to give me an idea what those
8 costs really are.

9 And in the end, I'm going to ask that
10 your briefs address the distinction between the
11 legal versus the economic conclusions that you can
12 draw around the term economically unsound, because
13 it's not just an economic term.

14 I'm not trying to put an additional
15 workload on anyone, and I'm certainly not trying
16 to take the schedule that we've been trying to
17 work with and stretch it out. But I -- I would
18 like this information in order to make a clearer
19 decision at this end.

20 Normally, we would ask for this to be
21 submitted ten days after the transcript was
22 available. I'm -- I'm, again, stressing that I
23 don't -- I don't want a treatise on this. I want
24 something that is succinct and to the point. And
25 unless I hear a violent objection, what I'd like

1 to ask you to do is to submit it to us by the
2 23rd. Is that possible? If it's not, you know,
3 raise your hand and tell me, because I'm trying to
4 get a target date that would get this back in my
5 hands. I don't intend to hold a hearing on the
6 23rd. So I'm simply looking for a date that's
7 convenient to get this back.

8 MR. MILLER: May I ask a question? I
9 guess we both have questions.

10 PRESIDING MEMBER MOORE: Yes. Go ahead.

11 MR. MILLER: You're not asking for
12 additional testimony; correct? You're asking for
13 a brief.

14 PRESIDING MEMBER MOORE: Yes.

15 MR. MILLER: Thank you.

16 MS. POOLE: And will this brief be the
17 brief on all of the issues around biology and
18 water, or do you want one brief on this particular
19 issue and --

20 PRESIDING MEMBER MOORE: I want one
21 brief --

22 MS. POOLE: -- then subsequent --

23 PRESIDING MEMBER MOORE: -- on this --
24 on this issue, the concept of economically
25 unsound. I'm not asking you for -- to reinvent

1 soil and water. I simply think that this term and
2 the issue that it's wrapped around, wet versus dry
3 cooling, was not dealt with very well in the -- or
4 it was not dealt with as completely as it could've
5 been in the record. I'm uncomfortable with that.
6 This is the only tool I can think of right now,
7 give me a clearer way to deal with it, in addition
8 to the testimony that I've heard. But I do not
9 want a brief on -- on the entire -- on the entire
10 issue. Just very narrow.

11 Anyone who can't live with the 23rd?

12 MR. MILLER: No, that's fine.

13 PRESIDING MEMBER MOORE: Tell me -- tell
14 me if you can't, because I'm not into creating new
15 burdens.

16 MR. MILLER: That's fine. We have no
17 objection to the date.

18 PRESIDING MEMBER MOORE: Commitments of
19 any kind that can't be --

20 MR. MILLER: Let's see. Different
21 topic, doesn't count.

22 PRESIDING MEMBER MOORE: Okay. All
23 right. With that, any other housekeeping items?

24 Ms. Poole.

25 MS. POOLE: Yes. I would like to move

1 Dr. Fox's testimony that's been marked Exhibit 39
2 into the record.

3 PRESIDING MEMBER MOORE: My apologies.
4 So moved.

5 Any objection? Sorry.

6 So moved.

7 MR. MILLER: Well, I don't like it, but
8 I'll stay quiet.

9 (Laughter.)

10 MS. POOLE: We appreciate that.

11 (Thereupon, Exhibits 39-A and 39-B
12 were received in evidence.)

13 MS. POOLE: And one other question, and
14 this is probably because I'm late to this case,
15 and I apologize. Has there been a briefing
16 schedule established for briefs on the other
17 issues that were discussed today?

18 HEARING OFFICER WILLIAMS: Yes. The
19 briefing schedule that we've come up with is
20 basically the briefs are due ten days after you
21 receive a transcript. And receipt of transcript
22 is defined as the date they're posted on our Web
23 site.

24 MS. POOLE: Okay. So briefs on the
25 remaining issues will follow that schedule.

1 HEARING OFFICER WILLIAMS: Yes. And if
2 there's a problem with that, then parties may
3 e-mail me and we'll deal with it that way.

4 MS. POOLE: Okay.

5 MR. MILLER: One last question, please.

6 PRESIDING MEMBER MOORE: Yes. Mr.
7 Miller.

8 MR. MILLER: I would understand that the
9 record is therefore closed on this -- on all of
10 the issues at this hearing today; is that correct?

11 PRESIDING MEMBER MOORE: On all other
12 issues.

13 MR. MILLER: On all -- well, all issue,
14 other than you're going to be getting the brief.
15 But my understanding is that the hearing record is
16 closed on this.

17 PRESIDING MEMBER MOORE: I think
18 technically -- Counsel is advising me that based
19 on what comes in on the briefs, there may
20 conceivably be a need to have additional
21 testimony, and that I'll preclude that by taking
22 that step. So although I think it's unlikely, I'm
23 going to hold it open, hold the record open until
24 after we've --

25 MR. MILLER: All right. May I follow

1 up, then, and ask would that only apply just to
2 the inland water cooling policy, the -- the
3 economics --

4 PRESIDING MEMBER MOORE: It --

5 MR. MILLER: -- sound issues --

6 PRESIDING MEMBER MOORE: -- it's
7 certainly intended to only apply to that. So
8 while I have to hold the whole topic open, my
9 intention is really only to explore this one
10 topic.

11 MR. MILLER: With -- with due respect,
12 do you need to hold the whole topic open? There's
13 been --

14 PRESIDING MEMBER MOORE: Well, I --

15 MR. MILLER: We would request that it be
16 closed on all other topics, other than this, then.

17 PRESIDING MEMBER MOORE: Now you're
18 asking -- you're asking -- hold on.

19 Can't do it. I'm going to have to leave
20 the whole record open. And I'll plead no law
21 school on that.

22 No, I'm going to -- I'm going to hold it
23 all open. I don't think there's any prejudice in
24 doing that, Counselor. I don't -- I have no
25 intention to surprise anyone.

1 MR. MILLER: All right. All I'm trying
2 to do, I guess, is establish agreement among all
3 parties that there will be no new testimony filed.

4 PRESIDING MEMBER MOORE: I don't intend
5 to have --

6 MR. MILLER: On any topic.

7 PRESIDING MEMBER MOORE: -- barring
8 something really significant that comes out in the
9 briefs, which is, as I said, very narrowly
10 defined, I don't intend to have new testimony. So
11 you have my assurance on that.

12 MR. MILLER: All right. And you're not
13 inviting any -- or providing an opportunity for
14 any new testimony to be filed on any of the other
15 topics.

16 PRESIDING MEMBER MOORE: I'm certainly
17 not inviting it. No. And I don't anticipate it.

18 MS. POOLE: And I'm taking this as a
19 pointed comment, and I -- we have no intention of
20 filing additional testimony.

21 (Laughter.)

22 MR. MILLER: One never knows what's --

23 PRESIDING MEMBER MOORE: You took it as
24 a pointed comment?

25 MR. MILLER: -- what's going to turn up

1 on the fax machine.

2 PRESIDING MEMBER MOORE: Or mine. All
3 right.

4 Other housekeeping?

5 MS. WILLIS: May I ask just one final
6 clarifying question. When we're discussing the
7 factors and relative -- comparative costs, can we
8 use cases that, like La Paloma and other cases
9 that have been -- I mean, that would be the
10 figures that Staff --

11 PRESIDING MEMBER MOORE: Things that are
12 in the public record, I think can be -- can be
13 cited. But, again, I'm looking for -- I'm looking
14 for illustrative costs. Things that illustrate
15 the point. It's not --

16 MS. WILLIS: And that would be --

17 PRESIDING MEMBER MOORE: I doubt that
18 it's going to be definitive in any case. I mean,
19 I -- as I think came out in one of the questions,
20 none of this has been built yet. So we -- we
21 simply have estimates, in any case.

22 All right. And -- and Counsel is
23 advising me we can take official notice of
24 projects that have been completed, as well.

25 MS. WILLIS: Thank you.

1 PRESIDING MEMBER MOORE: They are in the
2 public record.

3 All right. With that, it's straight up
4 four o'clock. Thank you for all that. And we are
5 adjourned.

6 (Thereupon, the Evidentiary Hearing
7 of the California Energy Commission
8 was adjourned at 4:00 p.m.)

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CERTIFICATE OF REPORTER

I, VALORIE PHILLIPS, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Evidentiary Hearing; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said Hearing, nor in any way interested in the outcome of said Hearing.

IN WITNESS WHEREOF, I have hereunto set my hand this 17th day of March, 2000.

VALORIE PHILLIPS

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